HIGHLIGHTS

REVISION NO. 33 Jun 01/10

Pages which have been revised are outlined below, together with the Highlights of the Revision

CH/SE/SU PAGES	C	REASON FOR CHANGE	EFFECTIVITY
CHAPTER 00			
L.E.P. 1- 1		Revised to Reflect this revision indicating new,revised, and/or deleted pages	
T. OF C. 1		Revised to reflect this revision	
00-INTRO 1- 2, 12- 14, 17		**UPDATED APPROVED REPAIRS PARAGRAPH** Minor additions and amplification **ADDED NOTE**	

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CHAPTER 00

INTRODUCTION

LIST OF EFFECTIVE PAGES

N, R or D indicates pages which are New, Revised or Deleted respectively
Remove and insert the affected pages and complete the Record of Revisions and the Record of Temporary Revisions as necessary

CH/SE/SU	C	PAGE	DATE
RECORD OF REV.			
RECORD OF TEMP. REVISION			
LIST OF CHAPTERS			
L.E.P.	R	1- 1	Jun01/10
T. of C.	R	1	Jun01/10
00-INTRO	R	1	Jun01/10
00-INTRO	R	2	Jun01/10
00-INTRO		3	Jun01/08
00-INTRO		4	Jun01/08
00-INTRO		5	Jun01/08
00-INTRO		6	Jun01/08
00-INTRO		7	Jun01/08
00-INTRO		8	Jun01/08
00-INTRO		9	Jun01/08
00-INTRO		10	Jun01/08
00-INTRO		11	Jun01/08
00-INTRO	R	12	Jun01/10
00-INTRO	R	13	Jun01/10
00-INTRO	R	14	Jun01/10
00-INTRO		15	Jun01/09
00-INTRO		16	Jun01/09
00-INTRO	R	17	Jun01/10
00-INTRO		18	Jun01/09
00-INTRO		19	Jun01/09
00-INTRO		20	Jun01/09
00-INTRO		21	Jun01/09
00-INTRO		22	Jun01/09
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00-INTRO		39	Jun01/09
00-INTRO		40	Jun01/09
00-INTRO		41	Jun01/09
00-INTRO		801	Dec01/90
00-INTRO		802	Jun01/92
00-INTRO		803	Dec01/90
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00-INTRO		805	Dec01/90
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00-INTRO		813	Dec01/90
00-INTRO		814	Dec01/90

CHAPTER 00

INTRODUCTION

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General Recommendations Related to the Risk of Human Error during Maintenance			1	ALL
Correspondence			2	ALL
Manual Breakdown			3	ALL
Chapter Breakdown Policy			5	ALL
Topic Selection Policy			6	ALL
Description and Operation			7	ALL
Maintenance Topics			9	ALL
Presentation of the Text			14	ALL
Functional Item Numbers (FIN)			15	ALL
Statement of Effectivity			16	ALL
Preliminary Pages			18	ALL
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Power Plant Chapters			20	ALL
Specific Features for AMM in AirNav/Maintenance Environment			29	ALL
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Glossary of Abbreviations			31	ALL
General - Conversion of units			801	ALL

INTRODUCTION

1. General

The Aircraft Maintenance Manual (AMM) for the AIRBUS A310 AIRCRAFT conforms
R to ATA Specification No.100, Revision 21 and ASD-STE100 Simplified Technical
R English.
Improvements in subsequent ATA 100 revisions have been taken into consideration where appropriate so as to complement Revision 21, for optimum use of the Aircraft Maintenance Manual.

R Document Scope

R The AMM contains the instructions for the on-aircraft maintenance necessary
R to ensure the continued airworthiness of the aircraft.

R NOTE TO USERS :

R If you cannot find the information you need to ensure the continued
R airworthiness of the aircraft, or if you think that the information given is
R not complete, contact Airbus.

The AMM contains information required to service, repair, replace, adjust, inspect and check equipment and systems on the aircraft.
These tasks are normally performed on the ramp or in the maintenance hangar.
Information required for the maintenance of equipment off the A/C (shop maintenance) is contained in the Vendor or Manufacturer Component Maintenance Manuals (CMMV or CMMM).
The Aircraft Maintenance Manual also contains information about inspections and maintenance of aircraft structure. However, repair of structure is contained in the A310 Structural Repair Manual or Nacelle Structural Repair Manual. Information required for trouble shooting is contained in the A310 Trouble Shooting Manual.
The Aircraft Maintenance Manual contains the necessary data to cover scheduled Maintenance Procedures prescribed by the Maintenance Review Board Report (MRBR) and the Maintenance Planning Document (MPD).
If any or all of the Manual is translated, the official version shall be the original English language version produced by AIRBUS.
AIRBUS Technical Publications use both metric and non-metric systems of measurement. The system used in the original reference documents is quoted first, followed by the conversion into the other system in brackets.

A. Flight Test Requirements

Maintenance actions requiring a subsequent flight test are listed in 05-59-00.

B. General Recommendations Related to the Risk of Human Error during Maintenance

AIRBUS makes these general recommendations because :
- if a maintenance team does the same task on different components of the same type during the same maintenance event and :
- if the team makes a maintenance error,

there is a risk that the same error and the same failure will occur on all these components at the same time.
Thus, AIRBUS recommends :
- that operators do not do maintenance on different engines or redundant components installed on the same aircraft at the same time unless it is

not possible to do differently.
- that, if it is necessary to do maintenance on more than one engine or on redundant components at the same time, different maintenance teams do the work on each engine or component.

C. Correspondence

Correspondence concerning this publication should be directed to :

AIRBUS S.A.S.
Technical Data Support and Services
1 Rond Point Maurice BELLONTE
31707 BLAGNAC CEDEX FRANCE

Or by the "Request for Information/Revision" form (N° SP 20001/10.87) available from AIRBUS SAS.

2. Manual Breakdown

The Aircraft Maintenance Manual is divided into chapters

AIRCRAFT GENERAL	CHAPTER
Time Limits/Maintenance Checks	5
Dimensions & Areas	6
Lifting and Shoring	7
Leveling & Weighing	8
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Starting 80

A. Chapter Breakdown Policy

Each Chapter/System is broken down into sections/subsystems (combinations of functional/physical groups).

Example :

- 29-00-00 - Hydraulic Power - General
- 29-10-00 - Main
- 29-20-00 - Auxiliary

Each Section/subsystem is broken down into sub-subsystems (Installations/Circuits).

Example :

- 29-10-00 - Main
- 29-11-00 - Green Main Hydraulic Power
- 29-12-00 - Blue Main Hydraulic Power
- 29-13-00 - Yellow Main Hydraulic Power

Each sub-subsystem is divided into subjects. Each subject represents a unit or component.

Example :

- 29-11-00 - Green Main Hydraulic Power
- 29-11-11 - Green Assembly Reservoir
- 29-11-12 - Hydraulic Reservoir
- 29-11-13 - Green Hydraulic Pump

NOTE : The subjects 01 to 08 are used in the Illustrated Parts Catalog (IPC) only in order to split the sub-subsystems of the aircraft into zones.

B. Topic Selection Policy

(1)General

The information contained in the Aircraft Maintenance Manual has been divided into two main categories :

- Description and Operation,
- Maintenance Procedures

For ready use of the Aircraft Maintenance Manual, detailed information regarding Description and Operation and Maintenance Procedures are provided at sub-subsystem level (XX-XX-00).

(2)Page Block Assignment

Topic	Page Block
Description and Operation (D/O)	001 - 099
Trouble Shooting.	... - ... Refer to TSM
Maintenance Practices (M/P)	201 - 299
Servicings	301 - 399
Removal/Installation (R/I)	401 - 499
Adjustment/Test (A/T)	501 - 599
Inspection/Check (I/C)	601 - 699
Cleaning/Painting (C/P)	701 - 799
Approved Repairs (A/R)	801 - 899
Deactivation/Reactivation (D/R)	901 - 999

NOTE : When the quantity of pages for any one sub-heading will exceed 99 the next pages will be numbered :
- 99, A00, A1, A2, A3 etc...
- 599, A500, A501, A502, A503 etc...

(3)Description and Operation (D/O) (Page 1 to 099)

The information contained in the topic "DESCRIPTION AND OPERATION" is covered at three levels :

(a)At chapter/system level (example XX-00-00)

Describes the relationship of functional/physical groups of the system, together with scope and outstanding features. Relationship between subsystems and other systems is also explained.

As a rule, illustrations at this level are simplified block diagrams or general views of the aircraft giving the location of the main components (i.e. flight controls and landing gears, etc.).

(b)At section/subsystem level (XX-10-00)

Details the functional/physical groups of the subsystem, the relationship between the groups and other systems, and the scope of each group.

In some cases, for example, 24-10-00, there is only one functional group at sub-subsystem level. The text and illustration of 24-10-00 therefore constitute the "General" part of 24-11-00.

At this level, the information is illustrated in the form of block diagram and simplified schematics.

(c)At sub-subsystem level (XX-11-00) (Installation/circuit level).
or at XX-XX-X0 for subdivision of complex installations/circuits

This level includes the following :

1 General

Main functions of the functional/physical group and their relationship with other groups and systems.

2 Component Location

Details all the components within an installation/circuit :

- Component electrical or mechanical identification Functional Item Number (FIN),
- Component name (the designation in this column and on the illustrations indicates the functions performed by the component),
- Instrument panel which accommodates the controls/indicators,
- The zone in which the component is located,
- Means of access to the component (access door No.NNNAA).

3 Description

The part of the system concerned is briefly detailed.

4 Component Description

Broad descriptive and operational information on the main components of the functional/physical group.

When a complex component is involved, an illustration is provided to show the component location on the aircraft, a perspective view, a simplified cross-section, and the symbol used in schematics.

5 Operation

Detailed operational information on the installation/circuit. The associated schematic shows the FIN of each component and associated electrical connections. The aim is to facilitate fault isolation and reference to the Wiring Diagram Manual (WDM)

In Control and Indicating topics, a block diagram shows the component location on instrument panels, together with the relevant functions.

6 INTERFACE

If applicable, an interconnection block diagram or a simplified schematic is provided to show the relationship between the system involved and the others systems.

(4)Maintenance Topics
(a)General
1 All the topics included in chapters 05 to 20 are covered by page block 1-099.
In order to facilitate the finding of information, in chapters 06, 11 and 12, the subject number assigned (5th and 6th digit) corresponds to the ATA chapter concerned.
For instance :
- 06-41-53 - Access Provisions - Fuselage
- 11-21-53 - Placards and Markings - Fuselage
- 12-12-29 - Replenishing Hydraulic
- 12-22-32 - Lubrication - Landing Gears

2 Maintenance operations are classified as a function of the type of work involved, regardless of the maintenance operation frequency.

3 Tools and Ground Support Equipment
The Special Tools and Equipment required for the maintenance operations are defined :
- either by their Part Numbers when they are listed in the Illustrated Tool and Equipment Manual.
- or by their main features.

The use by the airline of equivalent material can be recommended only after making certain that the substitute has the technical characteristics required for correctly performing the maintenance procedure described.

4 Materials
All the materials, which are prescribed for use during maintenance procedures are recorded in chapter 20-31-00 and 70-00-00.
The materials are classified in two categories :
- 20-31-00- General use and APU
- 70-00-00- Use specific to the engines

Throughout the manual (including the Structural Repair Manual, Service Bulletins and Service Information Letters) the "Material No." will be indicated. The customer will have the opportunity to select his vendor (by comparison with the associated referenced specifications).

**ON A/C 001-100,

NOTE : The Materials specified by General Electric for the power plant are identified by a set of specific "Material No", starting with letter "C" (For Example. C02-10).
Refer to chapter 70 for complete explanation.

**ON A/C 101-200,

NOTE : The materials specified by Pratt & Whitney for the power plant are identified by a set of specific "Material N°", starting with letter "P" (for example P02-10).
Refer to chapter 70 for complete explanation.

**ON A/C ALL

5 Spare Parts :
The Aircraft Maintenance Manual does not quote Part Numbers of Spare Parts.
The instructions for the replacement of equipment are given in the Removal/Installation topics.
However it is necessary to make sure that the replacement equipment has either the same P/N as the removed equipment or an approved interchangeable P/N.

6 Referenced Procedures
To facilitate the preparation of a job, any additional information, which is necessary to perform a certain maintenance procedure, is listes in the paragraph "Equipment and Materials" under the title "Referenced Procedures"

7 Special Processes and Standard Pratices
Special processes specific to AIRBUS are considered as Standard Practices when they are applicable to several systems.
- Processes applicable to one system only are described in the relevant chapter
- Processes applicable to several systems are described in chapter 20.

Procedures

(b)Maintenance Practices (M/P) (Pages 201 to 299)
If content of individual page blocks is brief, it can be combined into one page block 201.

(c)Servicing (S) (Pages 301 to 399)

1 Procedures covering replenishment checks are defined at chapter level (XX-00-00).
Procedures covering replenishment (hydraulic fluid, fuel, etc...) are listed in chapter 12-13-00.

2 At subject/component level (XX-XX-17), procedures covering e.g. filters, magnetic plug and lamp replacement are listed to enable the user to quickly locate the desired information.

(d)Removal/Installation (R/I) (Pages 401 to 499)
At subject/component level (XX-XX-17), this topic provides all data necessary for removing, installing or replacing a component :
When a component and directly related parts require in situ adjustment or check/test which do not involve complex, time-consuming operations, the work involved is covered in the Removal/Installation topic.
Reference to the topic Adjustment/Test is restricted to a minimum.
All non-standard torque values are specified.
All standard torque values are given in chapters 20/70.
The illustration details and locates the component together with the relevant means of access.
NOTE : For all A310 publications, isometric projection has been selected :
- Three-quarter forward viewed from below,
- Three-quarter rear viewed from above,
- Three-quarter rear viewed from below.

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The aircraft skin is not represented. Whenever a component is located on the left side of the aircraft and access gained from aircraft right side, a dotted arrow on the location drawing indicates a hidden component.
Under the illustrated view of the hidden component, a **FORWARD (FWD)** arrow indicates the component change in direction.

NOTE : If not otherwise stated ; the schematic/diagram presents the aircarft in the following configurations :
- aircraft on ground
- aircraft electrical system de-energized
- all controls in **NORM, AUTO** or **OFF** position.

(e)Adjustment/Test (A/T) (Pages 501 to 599)

Test information is divided into three categories - operational test, functional test, system test.
Below are definitions of the three categories :

1 Operational test

This test is required to ascertain that an item (system, subsystem component) is fulfilling its intended purpose. It does not require quantitative tolerances and it can include readings using aircraft instruments. This test requires no special equipment or facilities other than that installed on the aircraft and is comparable to the tests performed by the flight crews.
It is not intended that the operational test of the unit shall meet the specifications and tolerances ordinarily established for overhaul, or major maintenance periods. A test can be carried out where appropriate, with ground hydraulic, electrical and/or air conditioning connections made to the aircraft.

2 Functional test

This test is required to ascertain quantitatively that a system or unit is functioning in all aspects in accordance with minimum acceptable system or unit design specifications.
This test may require supplemental ground support equipment and be more specific and detailed than an operational test. It contains all necessary information to perform proficiency tests to maintain system or unit reliability at an acceptable level without reference to additional documents.

3 System test

This test contains all adjustment specifications and tolerances required to maintain system and/or unit performance at maximum efficiency and design specifications. It is self-contained and may duplicate other tests.

(f)Inspection/Check (I/C) (Pages 601 to 699)

1 General

Inspection/Check topics are divided into two parts :
- **I/C** without removal of components from the aircraft.
- **I/C** further to the removal of components from the aircraft.

2 I/C without removal
- visual **I/C** (cracks, damage, oxidation, paint, etc...)
- measurements (displacement, travel, overall clearances, leak measurements).

3 I/C with removal

- original dimensions
- maximum and minimum clearances

are given in table form.

(g)Cleaning/Painting (C/P) (Pages 701 to 799).

Cleaning procedures which require special precautions (parts contaminated by hydraulic fluid, battery acid, etc...) are included in the relevant chapter, including painting procedure (touch-up after maintenance).

(h)Approved Repairs (A/R) (Pages 801 to 899)

R This topic provides repair procedures with the exception of those
R covered by the CMMM/CMMV or by the SRM/NSRM.
R Repairs included in the Aircraft Maintenance Manual are non-structural
R repairs that can be performed on the aircraft.
R They are not submitted to the airworthiness authorities for approval,
R but are technically approved by :
R - The aircraft manufacturer, for manufacturer components.
R - The related vendor, for vendor components.
R IMPORTANT : Record of Temporary Repairs.

If Temporary Repairs are made, it is the responsibility of the Operator to record the following :

- location of the damage
- nature of the damage
- nature of the repair
- service life limit of the Temporary Repair.

(j)Deactivation/Reactivation (D/R) (Pages 901 to 999)

This topic covers the Master Minimum Equipment List (MMEL) and Configuration Deviation List (CDL) procedures.

1 Deactivation :

As required.

2 Reactivation :

The reactivation procedures describe the maintenance operations to be performed to restore the system to normal operation after removal or deactivation of the faulty component or system. In some cases, a reactivation procedure may be proceeded by a trouble shooting procedure cross-reference to the TSM is made in such a case.

NOTE : AMM deactivation task can refer to an FAA MMEL task, highlighted by (FAA only), if this task is not included in the Airbus MMEL.
Non-FAA operators can use the AMM task related to an FAA MMEL task if the AMM task satisfies their MEL requirement.

(k)Aircraft status for maintenance

The following items shall be considered as the basic aircraft configuration, before you start a maintenance task :

- Aircraft on the ground resting on landing gear (the ground safety locks and the wheel chocks are in position on the landing gear).
- Engines shut down, thrust reversers closed and locked.
- Aircraft in clean configuration.
- Parking brake applied.
- Aircraft electrical network de-energized.
- Hydraulic systems depressurized.
- Access to the cockpit and cabin is available.

- All circuits breakers are in closed position.
- All controls in NORM, AUTO or OFF position.
  If for clarity, it is necessary to depict the equipment in any other configuration, a NOTE states this specific configuration.
  Specific case (not covered in AMM)
  A line maintenance procedure (A/C serviceable and fully replenished) can in some instances require using ground power and aircraft systems.

C. Presentation of the Text

(1)General

Presentation of information is consistent throughout the topics at the same level (chapter, section, subject).
Moreover, in order to simplify the use of the Maintenance topics the same chronology has been applied to all topics.

(2)Cross-references in the text

The number of cross-references has been limited to three main cases :

- Cross-reference to another chapter, in the case of energizing of aircraft electrical network, pressurization of the hydraulic system, lifting of the aircraft, etc.
- Cross-reference to the list of materials (20-31-00 and 70-00-00).
- Cross-reference within the same sub-section (XX-XX-00) as, for example, in the case of replacement of a component requiring testing of the whole installation/circuit.

(3)Definition of terms

The following terms are used in the Aircraft Maintenance Manual and are defined as follows :

- **WARNING** : **CALLS ATTENTION TO USE OF MATERIAL, PROCESSES, METHODS, PROCEDURES OR LIMITS WHICH MUST BE FOLLOWED PRECISELY TO AVOID INJURY OR DEATH TO PERSONS.**
- **CAUTION** : **CALLS ATTENTION TO METHODS AND PROCEDURES WHICH MUST BE FOLLOWED TO AVOID DAMAGE TO EQUIPMENT.**
- **NOTE** : Calls attention to methods which make the job easier or provide supplementary or explanatory information
- The term "tighten" is generally used in locations where no torque value is specified in the text but can be found in chapter 20/70 Standard Practices.
- The term "torque" is used in the text together with a given specific torque value.

R A Maintenance Procedure can contain **WARNING/CAUTION**s. They are located
R directly before the text to which they relate.
R - **WARNING/CAUTION**s at the beginning of a Page Block are applicable to
R all the Page Block.
R - **WARNING/CAUTION**s at the beginning of a procedure are applicable to all
R the procedure.
R - **WARNING/CAUTION**s immediately before a work step are applicable to that
R specific work step.

D. Functional Item Numbers (FIN)

Equipment on the aircraft is generally allocated a unique identifier known as a Functional Item Number (FIN).

(1)Electrical FIN

An electrical FIN is assigned to components that have an electrical connection. The basic element of the FIN is a two letter code indicating to which system and circuit the equipment belongs. To this code are added prefixes and/or suffixes which provide the unique identification for individual equipment.

A typical electrical FIN is 301CA1, where :

- 301 : component number in circuit CA
- CA : system/circuit code (Autopilot in this example)
- 1 : Suffix - First of several similar systems (Autopilot System 1).

NOTE : Identical components which perform the same function in similar systems are differenciated by the suffix number (e.g. : 301CA1 for autopilot 1 and 301CA2 for autopilot 2).
Identical components which perform the same function in the same circuit are differenciated by the prefix number (e.g. : 31CA, 32CA).
General rule is that an even prefix idenfifies a component on the right hand side and an odd prefix identifies a component on the left hand side.
Example : 3FS Left
2FS Right

(2)Mechanical FIN

Mechanical equipment is identified by 6 numerals, the first two are the ATA Chapter/System prefix and the last four the equipment number.

A typical mechanical FIN is 271198, where :

27 : ATA Chapter/System (Flight Controls in this example)
1198 : equipment number

NOTE : The third numeral may identify a specific system to which an equipment belongs.
e.g. 291XXX = Hydraulic System - Green
292XXX = Hydraulic System - Blue
293XXX = Hydraulic System - Yellow

(3)FIN on aircraft

The FIN'S are shown on labels affixed to the structure near the related equipment. On the circuit breaker panels the FIN's are not directly visible, but are inside the panels.

The Airbus FIN system is not fully applied for the powerplants.

(4)FIN in technical publications

- the FIN is widely used in the manuals to ease the comprehension of illustrations, diagrams, schemes, descriptions and designations
- FIN'S quoted in brackets in general belong to the equipment installed on the right hand side of the aircraft.
- where, in the manuals, the FIN is expressed as the equipment number only (four numerals) the ATA Chapter/System prefix must be added to obtain the complete FIN.

E. Statement of Effectivity

(1)The statement of effectivity appearing in the Effectivity block by Customer Fleet Serial Numbers corresponds to the sum of the effectivities of the information included in the page.
Each paragraph is assumed effective for "ALL" aircraft, even if all the aircraft of the fleet are not yet defined/delivered.
Effectivity restrictions will be made from the "ALL" effectivity according to the aircraft modification status.
In the text, statements of effectivity are repeated every time they change.
Effectivity of interchangeable components such as Door, Horizontal and Vertical Stabilizers, etc is stated in Serial Numbers (1001-9999)
E.g. : **ON ALL DOORS**
or **ON DOOR SERIAL Nos. 1001-1040,**
ON DOOR SERIAL Nos. 1041 AND SUBSEQUENT
if restricted effectivities are involved.

(2)Configuration
When effectivity differences are extensive and the preceding method of reflecting effectivity becomes cumbersome, thus distracting from the continuity of subject matter, additional page blocks are established applicable to groups of aircraft.
These added page blocks are further identified by the addition of a configuration code (**CONF 1, CONF 2,** etc ...) placed underneath the chapter/section/subject number.
NOTE : The deletion of one configuration does not change the numbering of the remaining configuration(s).

(3)Effectivity Table
The aircraft identified by an Airbus Manufacturer Serial Number (**MSN**) in the effectivity table are covered in this current **AMM** issue.

VER : indicates the Aircraft **VER**sion within the customer fleet.
Example : **TK1** or **THY01** corresponds to the first customer version.

STD : Stands for Standard, it corresponds to a production standard for a given range of aircraft technical definition (e.g.: **ST5, ST6, ST7,** etc.)

Version Rank : indicates the "Rank" within the Customer versions.
Example : **TK2 0001** or **THY02 0001,** corresponds to first aircraft within the second customer version.

NOTE : The standard number and version rank may be useful when consulting/using the **SRM** and/or the aircraft drawing set.

VERSION	RESTRICTED EFFECTIVITY	MODEL	STANDARD	ENGINE
PIA03	0001-0100	310-308	ST7	GE-CF6-80C
DAL01	0101-0200	310-324	ST7	PW-4000

PAKISTAN INTERNATIONAL AIRLINES - Fleet No/MSN Cross-Reference Table :

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	AIRLINE	CUSTOMER FLEET SERIAL NUMBER	VERSION RANK	MODEL	MSN	REGISTRATION
	PIA	0001	PIA03 0001	310-308	0585	AP-BDZ
	PIA	0002	PIA03 0002	310-308	0587	AP-BEB
	PIA	0003	PIA03 0003	310-308	0590	AP-BEC
	PIA	0004	PIA03 0004	310-308	0653	AP-BEG
	PIA	0005	PIA03 0005	310-308	0656	AP-BEQ
	PIA	0006	PIA03 0006	310-308	0691	AP-BEU
	PIA	0101	DAL01 0003	310-324	0676	AP-BGN
	PIA	0102	DAL01 0005	310-324	0678	AP-BGO
	PIA	0103	DAL01 0006	310-324	0682	AP-BGP
R	PIA	0104	DAL01 0007	310-324	0686	N841AB
	PIA	0105	DAL01 0004	310-324	0660	AP-BGQ
	PIA	0106	DAL01 0008	310-324	0687	AP-BGR
	PIA	0107	DAL01 0009	310-324	0689	AP-BGS

F. Preliminary Pages
(1)Service Bulletin List
A Service Bulletin list is provided at the beginning of the Manual. It quotes the Service Bulletins chosen by the customers.
(2)List of Effective Pages
A list of effective pages is provided for each chapter and is located at the beginning of each chapter.
(3)Table of Contents
Each chapter in the Maintenance Manual begins with a Table of Contents. The Table of Contents shows each section contained in the chapter and the subject material within the section.

G. Revision Service
(1)General
The revision service is ensured on a yearly, six months or quarterly basis if not otherwise specified. Before incorporating a revision, ensure that the previous revision has been incorporated and recorded in the "Record of Revision" page.
(2)Filing Instructions
The filing instructions are given by means of two documents :
- Highlights (HL)
- List of Effective Pages (LEP)
The Highlights will provide the reason for the issue of pages or topics. The LEP will provide the indication of the pages revised (R) to be replaced, new pages (N) to be added or pages deleted (D) to be removed.
(3)Service Bulletin incorporation : Data related to Service Bulletins are only incorporated upon notice from the customer that subject Service Bulletins have or will be embodied on the aircraft.
Example :
Effectivities in the text.
The following is an example of an AMM text with effectivity statements :
(a)Remove screws (4), washers (5) and detach velcro tape.
Loosen screws securing cord ends and remove covers together with retaining cord.

1 ** On A/C 001-003

(b)Remove joint covers (2) located between compartment, from double-backed tape.

2 ** On A/C 001-003, 031-034, 038-042, 051-054, 091-091, 351-352.

Post SB 25-009 For A/C 001-003

(b)Remove screws (1, 3) and joint covers (2) from between compartments.
3 ** On A/C "ALL".

(c)At STA 1340/FR18 remove screws (26), washers (27) and end cap (28).
- The A/C in statement ... were delivered in a certain configuration which is covered by this step ...
- The A/C in statement 2 comprise all the A/C covered by this topic.

The A/C delivered later had a modification embodied during manufacture, which is retrofittable on A/C 001-003 by SB 25-009. This is covered by the second step (b).
- The statement 2 means that the following text is for all the quoted A/C but for A/C 001-003 only AFTER the SB has been embodied.
- After ALL three A/C 001-003 have been retrofitted by the SB, (and notified to Airbus) the statements 1, 2 and 3 areremoved. The pre-SB text is also removed leaving the text under 2 as follows :

(a)Remove screw (4), washers (5) and detach velcro tape. Loosen screws securing cord ends and remove covers together with retaining cord.
(b)Remove screws (1, 3) and joint covers (2) from between compartments.
(c)At STA 1340/FR18 remove screws (26), washers (27) and end cap (28).

(4)CUSTOMER ORIGINATED CHANGES (COC)

(a)COC Identification

COCs incorporated into the AMM at Customer request to reflect data or procedures originated by and peculiar to that specific customer, will be permanently identified by the COC reference number and by asterisks in the right hand margin on the individual pages (see example in the margin of this paragraph). The COC data incorporated into the Technical Data is shown in "POST" Configuration only. *

(b)Responsibility

Where the Customer requests Airbus to incorporate the Customer's originated data or that of any other party into the technical data issued by Airbus ("Technical Data") relating to the operation, maintenance, overhaul, repair or modification of the aircraft, Airbus shall do so on the condition that the use of the COC data shall be entirely at the Customer's risk, Airbus being under no liability whatsoever in respect of either the contents of any COC data, or the effect which the incorporation of such COC data may have on the Technical Data issued by Airbus.

(c)Disclaimer Clause

AIRBUS HEREBY EXPRESSLY DISCLAIMS ANY AND ALL WARRANTIES, EXPRESSED OR IMPLIED, ORAL OR WRITTEN, ARISING BY LAW, COURSE OF DEALING, OR OTHERWISE, AND WITHOUT LIMITATION ALL WARRANTIES AS TO QUALITY, OPERATION, MERCHANTABILITY, FITNESS FOR ANY INTENDED PURPOSE, AND ALL OTHER CHARACTERISTICS WHATSOEVER, OF CUSTOMER ORIGINATED CHANGES INCORPORATED INTO THE TECHNICAL DATA ISSUED BY AIRBUS. THE FOREGOING DISCLAIMER SHALL ALSO APPLY TO ANY PORTION OF AIRBUS TECHNICAL DATA WHICH MAY BE AFFECTED BY SUCH CUSTOMER ORIGINATED CHANGES.

(5)Revision Indication

(a)Text revision

1 Added text
A Revision justification code R is written in the margin, facing each added line.

2 Modified text
A Revision justification code R is written in the margin, facing each modified line.

3 Deleted text
A Revision justification code R is written in the margin, facing

a blank line.

(b)Illustration Revision

1 Added figure
A Revision justification code R is written in the margin, facing the cross-reference(s) to the figure(s) and at the level of the title.

2 Modified figure.
A Revision justification code R is written in the margin, facing the title.

3 Deleted figure
A Revision justification code R is written in the margin, facing the blank space left by the deletion of the cross-reference(s) to the figure.

(6)Temporary Revisions

All Temporary Revisions received before or at the same time as the Normal Revision are not automatically deleted even if their issue date precedes that of the Normal Revision. Only the Temporary Revisions deleted by the Highlights of a Normal Revision shall be removed.

IMPORTANT

- Do not remove a temporary revision unless instructed to do so by :
  (1) the Highlights of a Normal Revision
  or
  (2) a new Temporary Revision superseding the previous one.
- Update the Record of the TRs page accordingly.
- The microfilmed Maintenance Manual is accompanied by a list giving the Temporary Revisions which have been incorporated and the Temporary Revisions which remain still effective.

H. Power Plant Chapters

Engine manufacturer data has been combined with AIRBUS information and are included in the Airbus AMM.

- Normal revision to power plant data/information is incorporated in the Airbus AMM
- Temporary revisions to power plant data are covered by Airbus Temporary Revisions. The original Temporary Revision number is quoted on the TR transmittal sheet.

**ON A/C 101-200,

(1)PRATT and WHITNEY Engine - INTRODUCTION
(a)General
1 This publication is compiled and issued by the Product Support Department of Pratt & Whitney, Commercial Products Division, United Technologies Corporation, East Hartford, CT U.S.A. This manual, as it may be supplemented by P&W service bulletins, constitutes the authoritative statement of Pratt & Whitney's approved and recommended maintenance procedures for the JT9D and the PW 4000 engines. The information and instructions contained herein are based upon actual experience acquired under varied and exacting conditions. The utmost in dependable engine performance will be gained by conforming to those instructions.
2 It is recommended that operators avoid performing maintenance on multiple engines installed on the same aircraft at the same time if at all possible.
If it is not possible to avoid maintenance on more than one engine at the same time, it is recommended that different maintenance teams service each engine.
NOTE : The above recommendation is an extract of the Special Airworthiness Information Bulletin (SAIB) No. NE-00-12, issued by the Federal Aviation Administration (FAA). It is recommended to consult this FAA bulletin for details and background information.
3 Unusual problems concerning engine maintenance should be presented to the Product Support Department either through its field representatives or by direct contact. All possible assistance will be provided toward the solution of these problems.
4 Requests for pertinent information not covered by this publication, and suggestions for modification or amplification of these instructions so as to increase their usefulness, will be welcomed by the Pratt & Whitney Product Support Department.
5 This publication will be revised as necessary to incorporate the latest approved data.
(b)Supplementary publications
1 It is recommended that personnel concerned with engine maintenance also familiarize themselves with the following publications :
- Engine Manual - JT9D7R4 Engine Manual and PW4000 Engine Manual contains the instructions required for maintenance of the basic engine off the aircraft.
- Illustrated Parts Catalog - The integrated A310 Power Plant Illustrated Parts Catalog lists and illustrates the Line Replaceable Unit assemblies and details which support the Maintenance requirements of the A310 Power Plant. This catalog must be augmented with the Pratt & Whitney JT9D-7R4 Engine Illustrated Parts Catalog and PW4000 Engine Illustrated Parts Catalog and appropriate Component Maintenance Manual Illustrated Parts Lists for engine shop support.
- Service Bulletins - Service Bulletins will be issued as required to

provide information or instructions for modifying earlier production engines or parts to the latest configuration.
- Standard Practices Manual - Standard Practices Manual contains approved and recommended standard practices information, instructions, and procedures used repeatedly on various engines manufactured by Pratt & Whitney.

(c)Parts and service

1 Product Support Department - Pratt & Whitney maintains a Product Support Department to assist its customers in the operation and maintenance of Pratt & Whitney engines. Product Support Department representatives maintain contact with operators and engine service activities and are available for the investigation of any specific difficulty or problem. Any request for assistance should be addressed directly to the Product Support Department, Pratt & Whitney, Commercial Products Division, United Technologies Corporation, East Hartford, CT 06108, U.S.A.

2 Ordering parts
- Whenever possible, refer to the appropriate Illustrated Parts Catalog, when ordering parts. If a parts list is not available, give engine model, manufacturer's engine serial number, and a full description of the part and where it is used. All spare parts orders should be addressed directly to the Spare Parts Department, Pratt & Whitney, Commercial Products Division, United Technologies Corporation, East Hartford, CT 06108, U.S.A.
- Because some parts require special or expensive equipment for assembling and cannot be fabricated except in a specially equipped shop, they are not furnished individually and must be purchased as assemblies. If an order is received for a unit of an assembly coming under this classification, the complete assembly will be shipped.

3 Returning parts
- All material being returned for investigation is to be shipped to the following address :

USA Based Operators	Non-USA Based Operators
PRATT & WHITNEY Product Support Material Control 400 Main Street Receiving Well #2 East Hartford, CT 06108	UNITED TECHNOLOGIES INTERNATIONAL c/o PRATT & WHITNEY Product Support Material Control 400 Main Street Receiving Well #2 East Hartford, CT 06108 USA

- Material returned is to be accompanied by a number five (5) Request for Support Allowance (RSA) copy.
- Parts must be packaged adequately to prevent damage in transit. Parts removed from various engines or having different part times should be individually tagged and covered by separate RSA's.
- Material eligible for Service Policy Benefits and returned to the Pratt & Whitney Overhaul And Repair Center is to be shipped to one

of the following addresses.

For return of individual parts :

USA Based Operators	Non-USA Based Operators
PRATT & WHITNEY Overhaul And Repair Center Newell Street Southington, Connecticut 06489	UNITED TECHNOLOGIES INTERNATIONAL c/o PRATT & WHITNEY Overhaul And Repair Center Newell Street Southington, Connecticut 06489 USA

For return of engines and modules :

USA Based Operators	Non-USA Based Operators
PRATT & WHITNEY Overhaul And Repair Center 500 Knotter Drive Cheshire, Connecticut 06410	UNITED TECHNOLOGIES INTERNATIONAL c/o PRATT & WHITNEY Overhaul And Repair Center 500 Knotter Drive Cheshire, Connecticut 06410 USA

- Material returned is to be accompanied by a number five (5) copy of an RSA.
- Material so returned should be covered by the operator's charge purchase order to facilitate proper billing.

(d)Vendor services

It is to be understood that PRATT & WHITNEY does not endorse the work performed by the company or companies named herein or any other company and does not accept responsibility to any degree for the selection of such company or companies for the performance of any work or procurement of supplies.

(e)EQUIVALENT TOOLS, FIXTURES AND TEST EQUIPMENT

1 Airlines may, except as otherwise noted, substitute an equivalent tool, fixture, or item of test equipment for those listed throughout the manual provided the substitude item is functionally interchangeable, compatible with related procedures and safe from an equipment and user's standpoint.

2 Specific for Operators under FAA regulations

In accordance with federal regulations (14CFR43.13), anyone performing work on an engine covered by this manual under the jurisdiction and authority of the Federal Aviation Administration (FAA) must use tools, equipment, and test apparatus which will assure that such work will be completed in accordance with industry standards. If Pratt & Whitney recommends special equipment or test apparatus, each person performing the work must use that equipment or apparatus or its equivalent that is acceptable to the Administrator of the FAA. Special provisions of the FAA regulations regarding tools, equipment, and test apparatus apply to holders of certain air carriers operating certificates and certificates issued under certain specified parts of

those regulations.

(f)CORPORATE TRADEMARKS

The following words, acronyms are trademarks of United Technologies Corporation.

Pratt & Whitney

P&W

(g)Weights and Measures

Weights and measures are provided for both U.S. customary and SI - metric measurement systems. The SI - metric measurement value will appear in parenthesis immediately following the U.S. customary system equivalent. SI - metric equivalents for equal U.S. customary system values may differ slightly, depending on application as well as procedures utilized in the automated conversion program.

**ON A/C 001-100,

(1)GENERAL ELECTRIC Engine Data - INTRODUCTION

**ON A/C 101-103,

(2)GENERAL ELECTRIC Engine Data - INTRODUCTION

**ON A/C 001-100,

(a)General

1 This manual covers the maintenance that can be performed while the engine is installed on the aircraft.

CAUTION : REPAIR PROCEDURES IN THIS MANUAL HAVE BEEN DEVELOPED, TESTED, AND APPROVED FOR THE REPAIR OF SPECIFIC, KNOWN CONDITIONS. RESTORATION USING ALTERNATE METHODS ; OR THE REPAIR OF CONDITIONS NOT DESCRIBED IN THIS MANUAL, MUST BE UNDERTAKEN WITH CAREFUL REGARD TO THE POSSIBILITY OF DOING UNINTENDED AND NON APPARENT DAMAGE. REPAIRS CAN ALTER CRITICAL DIMENSIONS, DISTURB AIRFLOW, CREATE STRESS RISERS, DEGRADE MATERIAL STRENGTH, AND IN MANY OTHER, MORE SUBTLE, WAYS DESTROY THE PROPER FUNCTIONING OF A PART. USE OF AN INDEPENDENT (NON-GENERAL ELECTRIC) OR USER DEVELOPED REPAIR PRODECURE, PARTICULARLY IN AREAS OF HIGH STRESS OR TEMPERATURE, OTHER AREAS INDICATED AS BEING CRITICAL, AND AREAS OF TIGHTLY CONTROLLED FITS OR CLEARANCES, MAY RESULT IN REDUCED USEFUL LIFE OR PREMATURE FAILURE FOR WHICH GENERAL ELECTRIC WILL ASSUME NO RESPONSIBILITY. IF ANY DOUBT EXISTS ABOUT THE POTENTIAL RISK OF AN INDEPENDENT OR USER DEVELOPED REPAIR, THE GENERAL ELECTRIC COMPANY SHOULD BE CONTACTED FOR A RECOMMENDED COURSE OF ACTION.

2 It is recommended that operators avoid performing maintenance on multiple engines installed on the same aircraft at the same time if at all possible.
If it is not possible to avoid maintenance on more than one engine at the same time, it is recommended that different maintenance teams service each engine.

NOTE : The above recommendation is an extract of the Special Airworthiness Information Bulletin (SAIB) No. NE-00-12, issued by the Federal Aviation Administration (FAA). It is recommended to consult this FAA bulletin for details and background information.

3 Line maintenance of the engine and its subsequent ground handling encompasses :
- Servicing.
- Isolating faults (Refer to TSM).
- Controlling parameters and acceptable operating limits.
- Adjusting and testing required to obtain proper engine operation
- Replacing, inspecting, adjusting and testing of Line Replaceable Units (LRUs).

4 All information covering description, location, operation of the engine, its components or systems, although not directly related to a specific maintenance task, is also included.

5 Observe standard shop practice safety procedures and precautionary measures at all times to avoid damage to equipment or injury to personnel.

6 These instructions neither purport to cover all details or variations in equipment nor provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or particular problems arise that are not covered sufficiently for the purchaser's purpose, contact the General Electric Company, Commercial Engine Product Support Department, Cincinnati, Ohio 45215.

(b)DGAC Maintenance Review Board Report

MAINTENANCE OF THE CF6-80 ENGINE IS PREDICATED UPON AIRLINE COMPLIANCE WITH DIRECTION GENERALE DE L'AVIATION CIVILE (DGAC) MAINTENANCE REVIEW BOARD REPORT :

- FOR THE AIRBUS MODEL A310/CF6-80A POWER PLANT DATED March 1983.

- FOR THE AIRBUS MODEL A310/CF6-80C POWER PLANT DATED November 1985.

MAINTENANCE BEYOND THE PERIOD COVERED BY THE MAINTENANCE REVIEW BOARD REPORT IS PREDICATED UPON A MAINTENANCE/INSPECTION PLAN, TYPICAL OF THAT REQUIRED BY FEDERAL AVIATION REGULATION PART 121, APPROVED BY FAA/DGAC OR EQUIVALENT AIR REGULATORY AGENCY.

(c)Organization of Manual

1 Shared Chapters GE/AIRBUS.

Chapter Number	Chapter Designation	Chapter Number	Chapter Designation
06	Dimension and Areas	70	Standard Practices - Engines
11	Placard and Markings	71	Power Plant
12	Servicing	72	Engine
23	Communications	73	Engine Fuel and Control
24	Electrical Power	74	Ignition
26	Fire Protection	75	Air
29	Hydraulic Power	76	Engine Control
30	Ice and Rain Protection	77	Indicating
36	Pneumatic	79	Oil
54	Nacelle/Pylons	80	Starting

(Ref. Fig. 001)

(d)Supporting Publications.

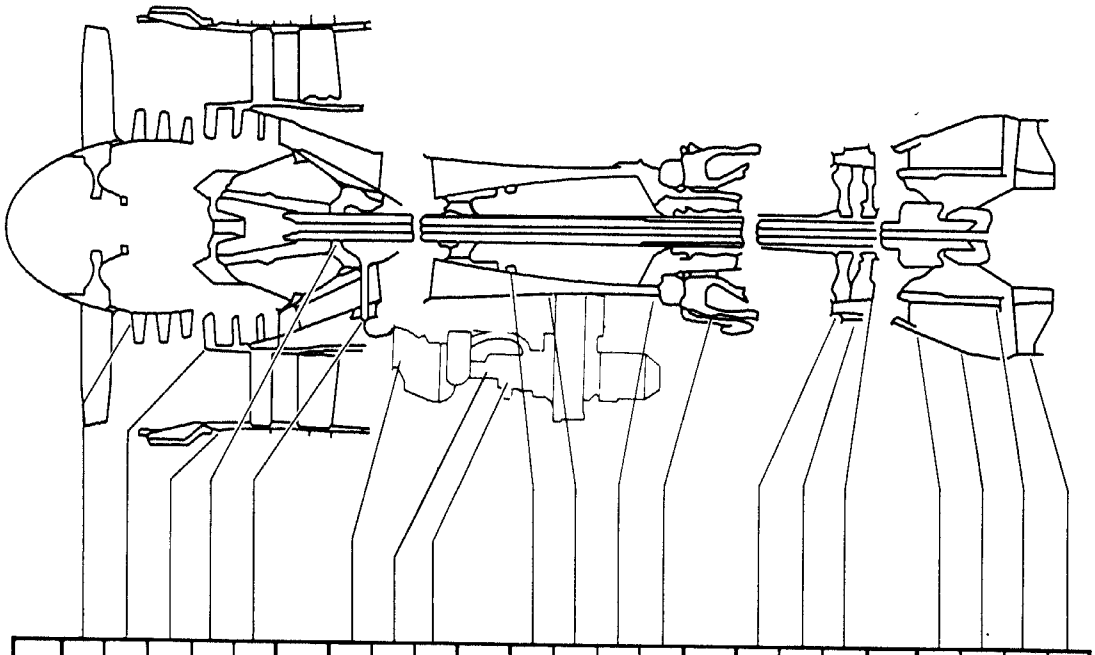
The following publications directly support this maintenance publication :

1 Operating Instructions

Provides operating limits and special operating procedures useful to pilots and maintenance personnel who will operate the engines. These instructions are not to be used for testing the engines after line or shop maintenance.

2 Illustrated Tool and Equipment Manual.

- Includes all tooling designed by GE that can be used to maintain the CF6-80 engine.



FAN MODULE	FAN ROTOR	FAN STATOR	FAN FRAME	FAN ROTOR MID SHAFT	RADIAL DRIVE SHAFT	ACCESSORY DRIVE MODULE	TRANSFERT GEARBOX	HORIZONTAL DRIVE SHAFT	ACCESSORY GEARBOX	CORE ENGINE MODULE	COMPRESSOR ROTOR	COMPRESSOR STATOR	COMPRESSOR REAR FRAME	COMBUSTION LINER	HIGH PRESSURE TURBINE MODULE	STG 1 HPT NOZZLE	STG 2 HPT NOZZLE	HPT ROTOR	LOW PRESSURE TURBINE MODULE	STG 1 LPT NOZZLE	LPT STATOR	LPT ROTOR	LPT REAR FRAME
	72-21-00	72-22-00	72-23-00	72-24-00	72-62-00		72-63-00	72-64-00	72-65-00		72-31-00	72-32-00	72-34-00	72-41-00		72-51-00	72-52-00	72-53-00		72-55-00	72-56-00	72-57-00	72-58-00

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ATA Numbering of Engine Sections
Figure 001

- Contains a numerical tool list, tool data sheets (which include an illustration of each tool), material handling equipment, control and accessory tooling and standard equipment supplier code including suppliers addresses.

3 Illustrated Parts Catalog (Power Plant)
- The integrated A310 Power Plant Illustration Parts Catalog identifies and illustrates line replaceable parts of the engines.
- Provides interchangeability information between parts.
- Presents various modifications and configurations resulting from Service Bulletin accomplishments.
- Intended only for requisitioning, storing, issuing and identifying part relationship for disassembly, where applicable. Not to be used as the authority for procedures of assembly of disassembly.

4 Nondestructive Test Manual
Provides information on nondestructive testing methods to inspect the CF6-80 engine, its components, and individual parts. This manual is to be used in conjunction with the CF6-80 Maintenance Manual and other, for operating and service instructions applicable inspection equipment. All findings of these inspections shall be interpreted according to limits of serviceability shown in the CF6-80 Maintenance Manual.

(e)Supplementary Publications
The following additional publications support the engine but do not directly relate to the on-aircraft maintenance of the engine :

1 Engine Manual
- The Engine Manual presents detailed information required to support the engine at shop level.
- Inspecting, repairing, testing and troubleshooting procedures comprise the major portion of this publication. Description of the engine modules, assemblies and individual parts and are included to familiarize personnel with the terminology and physical appearance.

2 Component Maintenance Manuals
- Contain detailed maintenance or overhaul instructions for the accessories furnished on the engine.
- The manuals cover disassembly, cleaning, inspection, approved repairs and repair methods, assembly and testing of the accessories. The manuals also include an Illustrated Parts Catalog for each accessory.

3 Facility Planning Manual
Provides information to aid airline planners in developing the facilities and equipment requirements for the CF6-80 engine. Equipment, space, manpower skills and processes requirements are given on a broad base so individual airlines can fit them to their operations.

4 Installation Manual
This publication is intended to assist in establishing airplane/engine design interface only. It contains data specifically related to power plant installations and operating theory.

5 Standard Practices Manual (GEK 9250)
Provides a single source for all standard GE processes or procedures

needed in the maintenance of the CF6-80 engine. Its purpose is to prevent repetitious reproduction of these documents in the Maintenance Manual.

6 Illustrated Parts Catalog (Engine)
- Identifies and illustrates line replaceable parts and assemblies of the engine.
- Provides interchangeability information between parts/models.
- Prevents various modifications and configurations resulting from Service Bulletin accomplishments.
- Intended only for requisitioning, storing, issuing and identifying part relationship for disassembly, where applicable. Not to be used as the authority for procedures of assembly of disassembly.

(f)Definition of Terms

The following terms are used in the Maintenance Manual and are defined as follows :

1 WARNING : WARNING CALL ATTENTION TO METHODS, PROCEDURES OR LIMITS WHICH, IF NOT PRECISELY FOLLOWED, POSE A PARTICULAR RISK OF INJURY OR DEATH TO PERSONS.

2 CAUTION : CAUTIONS CALL ATTENTION TO METHODS AND PROCEDURES WHICH, IF NOT PRECISELY FOLLOWED, POSE A PARTICULAR RISK OF EQUIPMENT DAMAGE.

3 NOTE : Notes call attention to methods that make the job easier, or provide supplementary or explanatory information.

(g)English and Metric Units

The limits (dimensional) or values (torque) etc. are expressed in the English and Metric System of measurements. The English System of measurement is primary, followed by the Metric conversion.

**ON A/C ALL

3. Specific Features for AMM in AirNav/Maintenance Environment

The AMM can be accessed in the following digital format product
- AirNav/Maintenance (DVD)
- SGML

The AMM data on PDF is basically the same as that contained in digital format, however, there are few specific features associated with the AirNav/Maintenance environment.
These specific features are :

A. AMM Front Matter

(1)Higlights

Highlights are provided at the front of the AMM document (and not at chapter level). A reference column is listing the page block which has been modified at the revision. A hyperlink function is implemented to switch directly from highlights to revised data within the AMM and vice versa.

(2)Manual Structure

The list of ATA chapters is directly accessible via the
The list of ATA chapters is directly accessible via the
AirNav/Maintenance Table of Contents (TOC).

Clicking on the expansion mark "+" will display the sub-chapters, clicking again will access to the section/sub-section up to a Page Block number.

(3)List of Temporary Revisions
This list is directly accessible via the AirNav/Maintenance main menus. Refer to the AirNav/Maintenance help menu for information on updating the List of Temporary Revisions.

(4)Record of Temporary Revisions (ROTR)
The ROTR is not available on DVD. Specific functions for TR management are available in AirNav/Maintenance.
The ROTR is superseded by the TR List paragraph, located in Manual Front Matter.

(5)SB/COC lists
These lists are directly accessible via the AirNav/Maintenance AMM menu. Hyperlink is implemented between SB/COC list and associated data with the AMM.

B. Preliminary pages at Chapter level

(1)List of Effective Pages (LEP)
The LEP is not applicable because the manual contents is not page oriented.

(2)Table of Contents (TOC)
The TOC in AirNav is specifically structured to ease data retrieval.
You can also retrieve the data using access by :
- Chapter/Section/Subject/Page Block
- "WORD SEARCH" function using the icon from the banner.

C. Revision Service

(1)Filing Instructions
There are no filing instructions with AirNav/Maintenance. In its place, a transmittal letter is sent with the DVD.

(2)Revision code
In the current revision of AirNav, the revision changes are identified by a yellow background on the screen to highlight the changes between two revisions.

(3)Temporary revision (TR)
For AirNav/Maintenance, Temporary Revisions are supplied in digital via Airbus I WORLD and in CD format. These TR have to be loaded as soon as received. Refer to Airnav/Maintenance User Guide for updating and management.

(4)Customer Originated Change data :
COC data is shown in green color to differentiate it from the original Manufacturer's data. The COC list is directly accessible from the menu.

4. Glossary of Abbreviations

The abbreviations are defined in the Airbus Approved Abbreviations Handbook (AAAH).

ABBREVIATION	SIGNIFICATION
A	AMBER
A/C	Aircraft
A/D	Analog to Digital Converter (Convertisseur analogique/ numerique A/N)
A/O	Air Oil
A/THR	Autothrust
AC	Alternating Current
ACARS	Aircraft Communications Addressing and Reporting System
ACIA	Asynchronous Communications Interface Adaptor
ACK	Acknowledge
ACQ	Acquire
ACT	Additional Center Tank
ACTR	Actuator
ADC	Air Data Computer
ADD	Addition
ADF	Automatic Direction Finding
ADI	Attitude Director Indicator
ADL	Airborne Data Loader
ADS	Air Data System
ADV	Advisory
AF	Audio Frequency
AFS	Automatic Flight System
AGB	Auxiliary Gear Box
AGC	Automatic Gain Control
AI	Anti Ice (nacelle)
AIDS	Aircraft Integrated Data System
ALF	AFT Looking Forwards
ALPHA	Angle-of-attack
ALT	Altitude
ALT RPTG	Altitude Reporting
ALTN	Alternate, Alternative
ALU	Arithmetic and Logic Unit
AM	Amplitude Modulation
AMU	Audio Management Unit
ANN	Annunciator
ANNLT	Annunciator Light
ANT	Antenna
AP	Autopilot
APU	Auxiliary Power Unit
ARC	Air Refueling Computer
ARINC	Aeronautical Radio Incorporated
ARPT	Airport
ASA	All speed aileron
ASAP	AS SOON AS POSSIBLE
ATA	Air Transport Association of America
ATC	Air Traffic Control

ABBREVIATION	SIGNIFICATION
ATCRB	Air Traffic Control Radar Beacon
ATE	Automatic Test Equipement
ATS	Autothrottle System
ATT	Attitude
AUTO	Automatic
AUX	Auxiliary
BCD	Binary Coded Decimal
BCV	Bore Cooling Valve
BFE	Buyer Furnished Equipment
BITE	Built-in Test Equipment
BNR	Binary
BOT	Begin of Tape
BRT	Bright, Brightness
C	Celsius
C	Cyan
C/B	Circuit Breaker
CAPT	Captain
CAT	Category
CCCV	Core Compartment Cooling Valve
CCDL	Cross Channel Data Link
CDP	Compressor Discharge Pressure
CDU	Control and Display Unit
CG	Center of Gravity
CGCS	Center of Gravity Control System
CH	Chapter
CHAN	Channel
CLO	Clockwise
CM	Crew Member
CMD	Command
COM	Communication
CONFIG	Configuration
CPU	Central Processing Unit
CRC	Continuous Repetitive Chime
CRF	Compressor Rear Frame
CRS	Course
CRT	Cathode Ray Tube
CSTR	Constraint
CTL	Control
CTL PNL	Control Panel
CTR	Center
CTS	Clear to Send
CVR	Cockpit Voice Recorder
CW	Continuous Wave
CWS	Control Wheel Steering
D/A	Digital to Analog Converter (convertisseur numerique/analogique N/A)
DADC	Digital Air Data Computer
DAR	Digital AIDS Recorder
DC	Direct Current

ABBREVIATION	SIGNIFICATION
DCU	Data Converter Unit
DDM	Difference in Depth of Modulation
DDRMI	Digital Distance and Radio Magnetic Indicator
Delta T	Difference in Time
DEVN	Deviation
DF	Data Follows
DFA	Delayed Flaps Approach
DFDAMU	Digital Flight Data Acquisition and Management Unit
DFDAU	Digital Flight Data Acquisition Unit
DFDR	Digital Flight Data Recorder
DFIDU	Dual Function Interactive Display Unit
DGAC	Direction Generale de l'Aviation Civile
DH	Decision Height
DIM	Dimming
DISH	Discharge
DITS	Digital Information Transfer System
DIU	Digital Interface Unit
DME	Distance Measuring Equipment
DMU	Data Management Unit
DO	Data Output
DOC.DATA	Documentary Data
DPV	Directional Pilot Valve
DSPL	Display
DTG	Distance To Go
DU	Display Unit
EAROM	Electrically Alterable Read Only Memory
EC	EMERGENCY CANCEL
ECAM	Electronic Centralized Aircraft Monitoring
ECM	Engine Condition Monitoring
ECP	ECAM Control Panel
ECS	Environmental Control System
ECU	Electronic Control Unit
EEC	Electronic Engine Control
EEC	Engine Electronic Controller
EEPROM	Electrically Eraseable Programmable Read Only Memory
EFCS	Electrical Flight Control System
EFCU	Electrical Flight Control Unit
EFIS	Electronic Flight Instrument System
EGT	Exhaust Gas Temperature
EHSV	Electro-Hydraulic Servo Valves
ELEC	Electric, Electrical, Electricity
ENG	Engine
ENG1	Engine 1
ENG2	Engine 2
EOT	End of Tape
EPR	Engine Pressure Ratio
EPROM	Erasable Programmable Read Only Memory
ESCV	Eleven Stage Cooling Valve
F	Fahrenheit

ABBREVIATION	SIGNIFICATION
F/O	First Officer
F/W	Failure/Warning
FAA	Federal Aviation Administration
FAC	Flight Augmentation Computer
FACS	Flight Augmentation Computer System
FADEC	Full Authority Digital Engine Control
FAR	Federal Aviation Regulations
FB	Feedback
FCC	Flight Control Computer
FCU	Fuel Control Unit
FD	Flight Director
FDEP	Flight Data Entry Panel
FDIU	Flight Data Interface Unit
FF/FU	Fuel Flow/Fuel used
FFT	Forward Full Trhrottle
FGS	Flight Guidance System
FGS	Fuel Gauging System
FIG	FIGURE
FIN	Functional Item Number
FL	Flight Level
FLA	Forward Looking Aft
FLC	Feel and Limitation Computer
FLT CTL	FLIGHT CONTROLS
FM	Frequency Modulation
FMC	Flight Management Computer
FMS	Flight Management System
FMV	Fuel Metering Valve
FNSG	Flight Navigation Symbol Generator
FO	Fully Open
FPA	Flight Path Angle
FPV	Flight Path Vector
FQI	Fuel Quantity Indicating/Indication/Indicator
FQIC	Fuel Quantity Indication Computer
FR	Frame
ft	Feet, Foot
FTT	FUEL TANK TEMPERATURE
FWC	Flight Warning Computer
FWD	Forward
FWS	Flight Warning System
G	GREEN
G/S	Glide Slope
GA	Go-Around
Gamma-a	Slope
Gamma-t	Potential slope
GMT	Greenwich Mean Time
GND	Ground
GPWC	Ground Proximity Warning Computer
GPWS	Ground Proximity Warning System
GS	Ground Speed

ABBREVIATION	SIGNIFICATION
H	Height
HDG	Heading
HDG/S	Heading Selected
HI	High
HMC	Hydromechanical Control
HMU	Hydro Mechanical Unit
HP	High Pressure
HPC	High Pressure Compressor
HPSOV	High Pressure (fuel) Shut-Off Valve
HPT	High Pressure Turbine
HPTACC	High Pressure Turbine Active Clearance Control
HPV	High Pressure Valve
HSI	Horizontal Situation Indicator
HYD	HYDRAULICS
Hz	Hertz
I/O	Input/Output
I/P	Input
ICAO	International Civil Aviation Organisation
ID	Inside Diameter
IDG	Integrated Drive Generator
IDU	Interactive Display Unit
IF	Intermediate Frequency
IGB	Inlet Gear Box
IGV	Inlet Guide Vane
ILS	Instrument Landing System (LOC and G/S)
IND	Indicator
INHIB	Inhibit, Inhibited, Inhibition
INR	Inner
INST	Intrument
IP	Intermediate Pressure
IRQ	Interrupt Request
IRS	Inertial Reference System
ISOL	Isolation
IT	Interruption
KT	Knot(s)
KTS	Knots
L	Left
L/G	LANDING GEAR
LA	Linear Accelerometer
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LH	Left Hand
LIS	Localizer Inertial Smoothing
LO	Low
LO LVL	Low Level
LO PR	Low Pressure
LOC	Localizer
LP	Low Pressure
LPSOV	Low Pressure (fuel) Shut-Off Valve

ABBREVIATION	SIGNIFICATION
LPT	Low Pressure Turbine
LPTACC	Low Pressure Turbine Active Clearance Control
LRU	Line Replaceable Unit
LSI	Large Scale Integrated/Integration/Integrator
LT	Light
LT	LIGHT
LVDT	Linear Variable Differential Transducer
LVDT	Linear Variable Differential Transformer
M	MAGENTA
MAC	Mean Aerodynamic Chord
MAN	Manual
MAN/THR	Manual Throttle
MAX	Maximum
MCDU	Multipurpose Control & Display Unit
MCU	Modular Concept Unit
MDA	Minimum Descent Altitude
MFA	Memorized Fault Annunciator
MFP	Main Fuel Pump
MIN	Minimum
MIP	Maintenance Information Printer
MKR	Marker (radio) Beacon
MLG	Main Landing Gear
MLI	Magnetic Level Indicator
MLS	Microwave Landing System
MMO	Maximum Operating Mach
MODE S	Mode Select
MPA	Modular Performance Analysis
MRBR	Maintenance Review Board Report
MSG	Message
MTI	Multi Tank Indicator
MTOW	Maximum Take Off Weight
MTP	Maintenance and Test Panel (AFS)
MUX	Multiplexer
N1	Engine Core Rotational Speed Used as an Engine Management Parameter (GE engines)
N1	Low Pressure Rotor Speed
N1	Engine Fan Speed
N1	Fan Shaft Speed
N1	LP Shaft Speed (Fan Speed)
N2	High Pressure Rotor Speed
N2	Core Shaft Speed
N2	HP Shaft Speed (Core Speed)
NAV	Navigation
NAV ADC	NAVIGATION - AIR DATA COMPUTER
NCD	No Computed Data
ND	Navigation Display
NDB	Non Directional Beacon
NM	Nautical Mile
NMI	Non-Maskable Interrupt

ABBREVIATION	SIGNIFICATION
NO	Normal Operation
NORM	Normal
NRZ	No Return to Zero
NVM	Non Volatile Memory
O/P	Output
OD	Outside Diameter
ODAR	Optical Digital AIDS Recorder
OFST	Offset
OGV	Outlet Guide Vane
ONS	OMEGA Navigation System
OPV	Overpressure Valve
OQAR	Optical Quick Access Recorder
OSG	N2 Overspeed Governor
OUTBD	Outboard
OUTR	Outer
p	Roll rate
P ALT	Profile Altitude
P CLB	Profile Climb
P DESC	Profile Descent
P EPR	Profile EPR
P MACH	Profile Match
P N1	Profile N1
P SPD	Profile Speed
P/B	PUSHBUTTON
P/BSW	Pushbutton Switch
P25	Compressor Inlet Total Pressure
P3	Compressor Discharge Pressure
P49	HP Turbine Discharge Pressure
PCM	Pulse Code Modulation
PCU	Power/Pressure control unit
PDL	Portable Data Loader
PDL	Programmable Data Loader
PE	HP Stage Air Pressure
PFD	Primary Flight Display
Phi	Bank angle
PIA	Peripheric Interface Adaptor
PLA	Power Lever Angle
PMA	Permanent Magnet Alternator
PMC	Power Management Control/Controller
PMUX	Propulsion Data Multiplexer
PN	Part Number
PO	Ambient Pressure
PPM	Parts Per Million
PR	Regulated Pressure (downstream of bleed valve)
PROM	Programmable ROM
PRSOV	Pressure Regulating and Shut Off Valve
PRTR	Printer
PRV	Pressure Regulating Valve
PS14	Fan Discharge Static Pressure

ABBREVIATION	SIGNIFICATION
PS3	HP Compressor Discharge Static Pressure
PSI	Pound Per Square Inch
Psi ax ay az	Heading Longitudinal acceleration Lateral acceleration Vertical acceleration
PSN	Position
PSU	Power Supply Unit
PT	Switching Pressure of HP Valve
PT2	Total Pressure
PT25	HP Compressor Inlet Total Pressure
PTU	Power transfer unit
PU	Panel Unit
PWR	Power
Q	Pitch rate
QAR	Quick Access Recorder
QFE	Field Elevation Atmospheric Pressure
QFU	Runway Heading
QNH	Sea Level Atmospheric Pressure
QTY	Quantity
r	Yaw rate
R	RIGHT, RED
RA	Radio Altimeter, Radio Altitude
RAD ALT	Radio Altimeter
RAM	Random Access Memory
RAT	Ram Air Turbine
RC	REPETITIVE CHIME
RCL	Recall
REF	Reference
RF	Radio Frequency
RFT	Reverse Full Throttle
RH	Right Hand
RLA	Reverse Lever Angle
RNG	Range
ROM	Read Only Memory
RPM	Revolution per Minute
RPU	Receiver Processor Unit (ONS)
RTCA	Radio Technical Commission for Aeronautics
RTD	Resistance Temperature Detector
RTS	Ready to Send
RVDT	Rotary Variable Differential Transducer
RVDT	Rotational Variable Differential Transformer
RWY	Runway
S	Second
SAE	Society of Automotive Engineers
SC	Single chime
SCU	Supplemental Control Unit
SCU	Signal Conditioning Unit
SDAC	System Data Analog Converter
SDI	Source Destination Identifier
SDI	Source Data Identifier

ABBREVIATION	SIGNIFICATION
SDU	Solenoid Driver Unit
SEL	Select, Selected, Selector, Selection
SELCAL	Selective Calling System
SFC	Specific Fuel Consumption
SFCC	Slat/Flap Control Computer
SFE	Seller Furnished Equipment
SFI	Slat/Flap Indicator
SG	Specific Gravity
SGU	Symbol Generator Unit
SI	Slip Indicator
SLS	Side Lobe Suppression
SM	Status Matrix
SMO	Stabilized Master Oscillator
SOL	Solenoid
SOV	Shut-Off Valve
SPD	Speed
SPI	Special Position Identification Pulse
SPR	Sync Phase Reversal
SRS	Speed Reference System
SSDA	Synchronous Serial Data Adapter
SSFDR	Solid State Flight Data Recorder
SSM	Sign Status Matrix
SSR	Secondary Surveillance Radar
STA	Station
STAB	Stabilizer
STS	Status
SV	Servovalve
SW	Switch
SYS	System
T/R	Thrust Reverser
T12	Fan Tip Inlet Total Temperature
T25	HP Compressor Inlet Total Temperature
T3	HP Compressor Discharge Total Temperature
T495	LPT Inlet Temperature (EGT)
T5	LPT Discharge Temperature
TAS	True Airspeed
TAT	Total Air Temperature
TBD	TO BE DETERMINED
TC	Thermocouple
TCAS	Traffic Alert and Collision Avoidance System
T2CAS	Traffic and Terrain Collision Avoidance System
TCC	Thrust Control Computer
TCJ	Temperature Cold Junction
TDC	Time Delay Closing
TDO	Time Delay Opening
TE	HP Stage Air Temperature
TECU	Temperature ECU
TGB	Transfer Gear Box
THR	Thrust

ABBREVIATION	SIGNIFICATION
THR.L	THR Latch
THS	Trimmable Horizontal Stabilizer
TK	Tank
TLA	Throttle Lever Angle
TM	Torque Motor
TO	Takeoff
TO/GA	Take Off/Go Around
TR	Transformer Rectifier
TR	Regulated Temperature (downstream of precooler)
TRA	Throttle Resolver Angle
TRANSF	Transfer
TRL	Thrust Reverser Left
TRP	Thrust Rate Panel - Thrust Rating Panel
TRR	Thrust Reverser Right
TSO	Technical Standard Order
TT	Switching Temperature of HP Valve
TTG	Time To Go
TTL	Transistor Transistor Logic
TTS	Trim Tank System
UART	Universal Asynchronous Receiver Transmitter
ULB	Underwater Locator Beacon
V1	Decision Speed
V2	Takeoff Safety Speed
V3	Flap Retraction Speed
VAC	Voltage Alternating Current
VBV	Variable Bleed Valve
Vc	Calibrated Airspeed
VCO	Voltage Controlled Oscillator
VDC	Voltage Direct Current
VFE	Maximum Flap Extended Speed
VFTO	Final Takeoff Speed
VHF	Very High Frequency
VIB	Vibration
VM	Maneuver Speed
VMO	Maximum Operating Speed
VMS	Minimum Selectable Speed
VOR	VHF Omnidirectional Range
VOR-D	VOR-DME
VOT	Voter
VS	Minimum Steady Flight Speed at which Aircraft is Controllable
VSS	Stick Shaker Speed
VSV	Variable Stator Vane
VSWR	Voltage Standing Wave Ratio
W	WHITE
WAI	Wing Anti Ice
WBS	Weight and Balance System
WGD	Windshield Guidance Display
WLDP	Warning light display panel

ABBREVIATION	SIGNIFICATION
WPT	Waypoint
WR	Weather Radar
WTB	Wing tip brake
XCVR	Transceiver
X-FEED	Crossfeed
XFR	Transfer
XTK	Cross Track Deviation
ZFCG	Zero Fuel Center of Gravity
ZFW	Zero Fuel Weight

CONVERSION OF UNITS

1. General

Conversion tables, included in the Maintenance Manual, are classified as follows :

A. Length (Ref. Fig. 801, 802, 803)
(Ref. Fig. 804)

B. Area or Surface (Ref. Fig. 805)

C. Volume - Capacity (Ref. Fig. 806)

D. Mass - Volumetric Mass (Ref. Fig. 807)

E. Speed - Acceleration (Ref. Fig. 808)

F. Pressure/Stress (Ref. Fig. 809)

G. Moment/Torque - Force (Ref. Fig. 810, 811, 812)

H. SWG Gages (Ref. Fig. 813)

THESE UNITS CORRESPOND TO →		NAUTICAL MILE (UK)	STATUTE MILE mile	YARD yd	FOOT ft	INCH in	MIL mil
NAUTICAL MILE (UK)		1	1.151 515	$2.026\ 667 \times 10^{3}$	6.080×10		
STATUTE	Mile	$8.684\ 210 \times 10^{-1}$	1	1.760×10^{3}	5.280×10^{3}		
YARD	yd	$4.934\ 209 \times 10^{-4}$	$5.681\ 818 \times 10^{-4}$	1	3	3.600×10^{1}	3.600×10^{4}
FOOT	ft	$1.644\ 737 \times 10^{-4}$	$1.893\ 939 \times 10^{-4}$	$3.333\ 333 \times 10^{-1}$	1	1.200×10^{1}	1.200×10^{4}
INCH	in			$2.777\ 778 \times 10^{-2}$	$8.333\ 333 \times 10^{-2}$	1	10^{3}
MIL	mil			$2.777\ 778 \times 10^{-5}$	$8.333\ 333 \times 10^{-5}$	10^{-3}	1
KILOMETRE	km	$5.396\ 118 \times 10^{-1}$	$6.213\ 712 \times 10^{-1}$	$1.093\ 613 \times 10^{3}$	$3.280\ 840 \times 10^{3}$		
METRE	m	$5.396\ 118 \times 10^{-4}$	$6.213\ 712 \times 10^{-4}$	1.093 613	3.280 840	$3.937\ 008 \times 10^{1}$	$3.937\ 008 \times 10^{4}$
DECIMETRE	dm			$1.093\ 613 \times 10^{-1}$	$3.280\ 840 \times 10^{-1}$	3.937 008	$3.937\ 008 \times 10^{3}$
CENTIMETRE	cm			$1.093\ 613 \times 10^{-2}$	$3.280\ 840 \times 10^{-2}$	$3.937\ 008 \times 10^{-1}$	$3.937\ 008 \times 10^{2}$
MILLIMETRE	mm					$3.937\ 008 \times 10^{-2}$	$3.937\ 008 \times 10^{1}$
MICROMETRE	µm					$3.937\ 008 \times 10^{-5}$	$3.937\ 008 \times 10^{-2}$

THESE UNITS CORRESPOND TO →		KILOMETRE km	METRE m	DECIMETRE dm	CENTIMETRE cm	MILLIMETRE mm	MICROMETRE µm
NAUTICAL MILE (UK)		1.853 184	$1.853\ 184 \times 10^{3}$				
STATUTE MILE	Mile	1.609 344	$1.609\ 344 \times 10^{3}$				
YARD	yd	9.144×10^{-4}	9.144×10^{-1}	9.144	9.144×10^{1}		
FOOT	ft	3.048×10^{-4}	3.048×10^{-1}	3.048	3.048×10^{1}		
INCH	in		2.540×10^{-2}	2.540×10^{-1}	2.540	2.540×10^{1}	2.540×10^{4}
MIL	mil		2.540×10^{-5}	2.540×10^{-4}	2.540×10^{-3}	2.540×10^{-2}	2.540×10^{1}

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Length (Multiples and Submultiples)
Figure 801

R

mm	in	mm	in	mm	in	mm	in
0.0001	.000 0039	1	.039 3701	40	1.574 8031	79	3.110 2362
0.0002	.000 0079	2	.078 7402	41	1.614 1732	80	3.149 6063
0.0003	.000 0118	3	.118 1102	42	1.653 5433	81	3.188 9764
0.0004	.000 0158	4	.157 4803	43	1.692 9134	82	3.228 3465
0.0005	.000 0197	5	.196 8504	44	1.732 2835	83	3.267 7165
0.0006	.000 0236	6	.236 2205	45	1.771 6535	84	3.307 0866
0.0007	.000 0276	7	.275 5906	46	1.811 0236	85	3.346 4567
0.0008	.000 0315	8	.314 9606	47	1.850 3937	86	3.385 8268
0.0009	.000 0354	9	.354 3307	48	1.889 7638	87	3.425 1968
		10	.393 7008	49	1.929 1339	88	3.464 5669
0.001	.000 0394	11	.433 0709	50	1.968 5039	89	3.503 9370
0.002	.000 0787	12	.472 4409	51	2.007 8740	90	3.543 3071
0.003	.000 1181	13	.511 8110	52	2.047 2441	91	3.582 6772
0.004	.000 1575	14	.551 1811	53	2.086 6142	92	3.622 0472
0.005	.000 1969	15	.590 5512	54	2.125 9842	93	3.661 4173
0.006	.000 2362	16	.629 9213	55	2.165 3543	94	3.700 7874
0.007	.000 2756	17	.669 2913	56	2.204 7244	95	3.740 1575
0.008	.000 3150	18	.708 6614	57	2.244 0945	96	3.779 5276
0.009	.000 3543	19	.748 0315	58	2.283 4646	97	3.818 8976
		20	.787 4016	59	2.322 8346	98	3.858 2677
0.01	.000 3937	21	.826 7717	60	2.362 2047	99	3.897 6378
0.02	.000 7874	22	.866 1417	61	2.401 5748	100	3.937 0079
0.03	.001 1811	23	.905 5118	62	2.440 9449		
0.04	.001 5748	24	.944 8819	63	2.480 3150		
0.05	.001 9685	25	.984 2520	64	2.519 6850		
0.06	.002 3622	26	1.023 6220	65	2.559 0551		
0.07	.002 7559	27	1.062 9921	66	2.598 4252		
0.08	.003 1496	28	1.102 3622	67	2.637 7953		
0.09	.003 5433	29	1.141 7323	68	2.677 1654		
		30	1.181 1024	69	2 716 5354		
0.1	.003 9370	31	1.220 4724	70	2.755 9055		
0.2	.007 8740	32	1.259 8425	71	2.795 2756		
0.3	.011 8110	33	1.299 2126	72	2.834 6457		
0.4	.015 7480	34	1.338 5827	73	2.874 0157		
0.5	.019 6850	35	1.377 9528	74	2.913 3858		
0.6	.023 6220	36	1.417 3228	75	2.952 7559		
0.7	.027 5591	37	1.456 6929	76	2.992 1260		
0.8	.031 4961	38	1.496 0630	77	3.031 4961		
0.9	.035 4331	39	1.535 4331	78	3.070 8661		

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Millimeters into Inches
Figure 802

	Inch	Millimetres		Inch	Millimetres
1/64	.015 625	0.396 875	33/64	.515 625	13.096 875
1/32	.031 250	0.793 750	17/32	.531 250	13.493 750
3/64	.046 875	1.190 625	35/64	.546 875	13.890 625
1/16	.062 500	1.587 500	9/16	.562 500	14.287 500
5/64	.078 125	1.984 375	37/64	.578 125	14.684 375
3/32	.093 750	2.381 250	19/32	.593 750	15.081 250
7/64	.109 375	2.778 125	39/64	.609 375	15.478 125
1/8	.125 000	3.175 000	5/8	.625 000	15.875 000
9/64	.140 625	3.571 875	41/64	.640 625	16.271 875
5/32	.156 250	3.968 750	21/32	.656 250	16.668 750
11/64	.171 875	4.365 625	43/64	.671 875	17.065 625
3/16	.187 500	4.762 500	11/16	.687 500	17.462 500
13/64	.203 125	5.159 375	45/64	.703 125	17.859 375
7/32	.218 750	5.556 250	23/32	.718 750	18.256 250
15/64	.234 375	5.953 125	47/64	.734 375	18.653 125
1/4	.250 000	6.350 000	3/4	.750 000	19.050 000
17/64	.265 625	6.746 875	49/64	.765 625	19.446 875
9/32	.281 250	7.143 750	25/32	.781250	19.843 750
19/64	.296 875	7.540 625	51/64	.796875	20.240 625
5/16	.312 500	7.937 500	13/16	.812 500	20.637 500
21/64	.328 125	8.334 375	53/64	.828 125	21.034 375
11/32	.343 750	8.731 250	27/32	.843 750	21.431 250
23/64	.359 375	9.128 125	55/64	.859 375	21.828 125
3/8	.375 000	9.525 000	7/8	.875 000	22.225 000
25/64	.390 625	9.921 875	57/64	.890 625	22.621 875
13/32	.406 250	10.318 750	29/32	.906 250	23.018 750
27/64	.421 875	10.715 625	59/64	.921 875	23.415 625
7/16	.437 500	11.112 500	15/16	.937 500	23.812 500
29/64	.453 125	11.509 375	61/64	.953 125	24.209 375
15/32	.468 750	11.906 250	31/32	.968 750	24.606.250
31/64	.484 375	12.303 125	63/64	.984 375	25.003 125
1/2	.500 000	12.700 000	1	1.000 000	25.400 000

Value of Binary Fractions of an Inch
Figure 803

VALUE OF DECIMAL FRACTION OF AN INCH

in	mm	in	mm	in	mm	in	mm
.0001	0.002 5	.001	0.025 4	.01	0.254	.1	2.54
.0002	0.005 1	.002	0.050 8	.02	0.508	.2	5.08
.0003	0.007 6	.003	0.076 2	.03	0.762	.3	7.62
.0004	0.010 2	.004	0.101 6	.04	1.016	.4	10.16
.0005	0.012 7	.005	0.127 0	.05	1.270	.5	12.70
.0006	0.015 2	.006	0.152 4	.06	1.524	.6	15.24
.0007	0.017 8	.007	0.177 8	.07	1.778	.7	17.78
.0008	0.020 3	.008	0.203 2	.08	2.032	.8	20.32
.0009	0.022 9	.009	0.228 6	.09	2.286	.9	22.86

VALUE OF INCHES

in	mm	in	mm	in	mm	in	mm
1	25.4	26	660.4	51	1 295.4	76	1 930.4
2	50.8	27	685.8	52	1 320.8	77	1 955.8
3	76.2	28	711.2	53	1 346.2	78	1 981.2
4	101.6	29	736.6	54	1 371.6	79	2 006.6
5	127.0	30	762.0	55	1 397.0	80	2 032.0
6	152.4	31	787.4	56	1 422.4	81	2 057.4
7	177.8	32	812.8	57	1 447.8	82	2 082.8
8	203.2	33	838.2	58	1 473.2	83	2 108.2
9	228.6	34	863.6	59	1 498.6	84	2 133.6
10	254.0	35	889.0	60	1 524.0	85	2 159.0
11	279.4	36	914.4	61	1 549.4	86	2 184.4
12	304.8	37	939.8	62	1 574.8	87	2 209.8
13	330.2	38	965.2	63	1 600.2	88	2 235.2
14	355.6	39	990.6	64	1 625.6	89	2 260.6
15	381.0	40	1 016.0	65	1 651.0	90	2 286.0
16	406.4	41	1 041.4	66	1 676.4	91	2 311.4
17	431.8	42	1 066.8	67	1 701.8	92	2 336.8
18	457.2	43	1 092.2	68	1 727.2	93	2 362.2
19	482.6	44	1 117.6	69	1 752.6	94	2 387.6
20	508.0	45	1 143.0	70	1 778.0	95	2 413.0
21	533.4	46	1 168.4	71	1 803.4	96	2 438.4
22	558.8	47	1 193.8	72	1 828.8	97	2 463.8
23	584.2	48	1 219.2	73	1 854.2	98	2 489.2
24	609.6	49	1 244.6	74	1 879.6	99	2 514.6
25	635.0	50	1 270.0	75	1 905.0	100	2 540.0

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Value of Decimal Fraction of an Inch and Inches
Figure 804

THESE UNITS CORRESPOND TO →		SQUARE MILE $mile^2$	SQUARE YARD yd^2	SQUARE FOOT ft^2	SQUARE INCH in^2
SQUARE MILE	$mile^2$	1	3.0 97 600 X 10^6	2.787 840 X 10^7	
SQUARE YARD	yd^2	3.228 306 X 10^{-7}	1	9	1.296 X 10^3
SQUARE FOOT	ft^2	3.587 007 X 10^{-8}	1.111 111 X 10^{-1}	1	1.440 X 10^2
SQUARE INCH	in^2		7.716 049 X 10^{-4}	6.944 444 X 10^{-3}	1
KILOMETRE CARRE	km^2	3.861 022 X 10^{-1}	1.195 990 X 10^6	1.076 391 X 10	
METRE CARRE	m^2	3.861 022 X 10^{-7}	1.195 990	1.076 391 X 10^1	1.550 003 X 10^3
DECIMETRE CARRE	dm^2		1.195 990 X 10^{-2}	1.076 391 X 10^{-1}	1.550 003 X 10^1
CENTIMETRE CARRE	cm^2		1.195 990 X 10^{-4}	1.076 391 X 10^{-3}	1.550 003 X 10^{-1}
MILLIMETRE CARRE	mm^2				1.550 003 X 10^{-3}

THESE UNITS CORRESPOND TO →		KILOMETRE CARRE km^2	METRE CARRE m^2	DECIMETRE CARRE dm^2	CENTIMETRE CARRE cm^2	MILLIMETRE CARRE mm^2
SQUARE MILE	$mile^2$	2.589 988	2.589 988X10^6			
SQUARE YARD	yd^2	8.361 274 X10^{-7}	8.361 274 X10^{-1}	8.361 274X10^1	8.361 274X10^3	
SQUARE FOOT	ft^2	9.290 304 X10^{-8}	9.290 304 X10^{-2}	9.290 304	9.290 304X10^2	
SQUARE INCH	in^2		6.451 600 X10^{-4}	6.451 600 X10^{-2}	6.451 600	6.451 600X10^2

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Area or Surface
Figure 805

R

- VOLUME

THESE UNITS CORRESPOND TO →		CUBIC YARD yd^3	CUBIC FOOT ft^3	CUBIC INCH in^3
CUBIC YARD	yd^3	1	2.700×10^{1}	$4.665\ 600 \times 10^{4}$
CUBIC FOOT	ft^3	$3.703\ 704 \times 10^{-2}$	1	1.728×10^{3}
CUBIC INCH	in^3	$2.143\ 347 \times 10^{-5}$	$5.787\ 037 \times 10^{-4}$	1
METRE CUBE	m^3	1.307 951	$3.531\ 467 \times 10^{1}$	$6.102\ 374 \times 10^{4}$
DECIMETRE CUBE	dm^3	$1.307\ 951 \times 10^{-3}$	$3.531\ 467 \times 10^{-2}$	$6.102\ 374 \times 10^{1}$
CENTIMETRE CUBE	cm^3	$1.307\ 951 \times 10^{-6}$	$3.531\ 467 \times 10^{-5}$	$6.102\ 374 \times 10^{-2}$
MILLIMETRE CUBE	mm^3			$6.102\ 374 \times 10^{-5}$

THESE UNITS CORRESPOND TO →		METRE CUBE m^3	DECIMETRE CUBE dm^3	CENTIMETRE CUBE cm^3	MILLIMETRE CUBE mm^3
CUBIC YARD	yd^3	$7.645\ 549 \times 10^{-1}$	$7.645\ 549 \times 10^{2}$	$7.645\ 549 \times 10^{5}$	
CUBIC FOOT	ft^3	$2.831\ 685 \times 10^{-2}$	$2.831\ 685 \times 10^{1}$	$2.831\ 685 \times 10^{4}$	
CUBIC INCH	in^3	$1.638\ 706 \times 10^{-5}$	$1.638\ 706 \times 10^{-2}$	$1.638\ 706 \times 10^{1}$	$1.638\ 706 \times 10^{4}$

- CAPACITY

THESE UNITS CORRESPOND TO →		GALLON (US) gal	LIQUID QUART (US)	GALLON (UK) gal	QUART (UK)	CUBIC INCH in^3	LITRE l
GALLON (US)	gal	1	4	$8.326\ 80 \times 10^{-1}$	3.330 72	2.310×10^{2}	3.785 41
LIQUID QUART (US)		2.500×10^{-1}	1	$2.081\ 70 \times 10^{-1}$	$8.326\ 80 \times 10^{-1}$	5.775×10^{1}	$9.463\ 52 \times 10^{-1}$
GALLON (UK)	gal	1.200 94	4.803 76	1	4	$2.774\ 20 \times 10^{2}$	4.546 09
QUART (UK)		$3.002\ 35 \times 10^{-1}$	1.200 94	2.500×10^{-1}	1	$6.935\ 5 \times 10^{1}$	1.136 52
CUBIC INCH	in^3	$4.329\ 004 \times 10^{-3}$	$1.731\ 602 \times 10^{-2}$	$3.604\ 643 \times 10^{-3}$	$1.441\ 857 \times 10^{-2}$	1	$1.638\ 71 \times 10^{-2}$
LITRE	l	$2.641\ 72 \times 10^{-1}$	1.056 688	$2.199\ 69 \times 10^{-1}$	$8.798\ 76 \times 10^{-1}$	$6.102\ 37 \times 10^{1}$	1

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R Volume - Capacity
Figure 806

THESE UNITS CORRESPOND TO →		SHORT TON (US) sh tn	TON (UK) ton	POUND lb	OUNCE oz	GRAIN gr
SHORT TON (US)	sh tn	1	$8.928\ 571 \times 10^{-1}$	2×10^{3}		
TON (UK)	ton	1.120	1	2.240×10^{3}		
POUND	lb	5×10^{-4}	$4.464\ 286 \times 10^{-4}$	1	1.600×10^{1}	7×10^{3}
OUNCE	oz			6.250×10^{-2}	1	4.375×10^{2}
GRAIN	gr			$1.428\ 571 \times 10^{-4}$	$2.285\ 714 \times 10^{-3}$	1
TONNE	t	1.102 311	$9.842\ 065 \times 10^{-1}$	$2.024\ 623 \times 10^{3}$		
KILOGRAMME	kg	$1.102\ 311 \times 10^{-3}$	$9.842\ 065 \times 10^{-4}$	2.204 623	$3.527\ 396 \times 10^{1}$	$1.543\ 236 \times 10^{4}$
GRAMME	g			$2.204\ 623 \times 10^{-3}$	$3.527\ 396 \times 10^{-2}$	$1.543\ 236 \times 10^{1}$

THESE UNITS CORRESPOND TO →		TONNE t	KILOGRAMME kg	GRAMME g
SHORT TON (US)	sh tn	$9.071\ 847 \times 10^{-1}$	$9.071\ 847 \times 10^{2}$	
TON (UK)	ton	1.016 047	$1.016\ 047 \times 10^{3}$	
POUND	lb	$4.535\ 923\ 7 \times 10^{-4}$	$4.535\ 923\ 7 \times 10^{-1}$	$4.535\ 923\ 7 \times 10^{2}$
OUNCE	oz		$2.834\ 952 \times 10^{-2}$	$2.834\ 952 \times 10^{1}$
GRAIN	gr		$6.479\ 891 \times 10^{-5}$	$6.479\ 891 \times 10^{-2}$

– VOLUMETRIC MASS

THESE UNITS CORRESPOND TO →		POUND PER CUBIC FOOT lb/ft^3	POUND PER CUBIC INCH lb/in^3	GRAIN PER CUBIC INCH gr/in^3	KILOGRAMME PAR METRE CUBE kg/m^3	GRAMME PAR CENTIMETRE CUBE g/cm^3
POUND PER CUBIC FOOT	lb/ft^3	1	$5.787\ 037 \times 10^{-4}$		$1.601\ 846 \times 10^{1}$	$1.601\ 846 \times 10^{-2}$
POUND PER CUBIC INCH	lb/in^3	1.728×10^{3}	1	7×10^{3}	$2.767\ 990 \times 10^{4}$	$2.767\ 990 \times 10^{1}$
GRAIN PER CUBIC INCH	gr/in^3		$1.428\ 571 \times 10^{-4}$	1	3.954 272	$3.954\ 272 \times 10^{-3}$
KILOGRAMME PAR METRE CUBE	kg/m^3	$6.242\ 796 \times 10^{-2}$	$3.612\ 729 \times 10^{-5}$	$2.528\ 910 \times 10^{-1}$	1	10^{-3}
GRAMME PAR CENTIMETRE CUBE	g/cm^3	$6.242\ 796 \times 10^{1}$	$3.612\ 729 \times 10^{-2}$	$2.528\ 910 \times 10^{2}$	10^{3}	1

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Mass - Volumetric Mass
Figure 807

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- SPEED

THESE UNITS CORRESPOND TO →		MILE PER HOUR mile/h	FOOT PER SECOND ft/s	KILOMETRE PAR HEURE km/h	METRE PAR SECONDE m/s	CENTIMETRE PAR SECONDE cm/s
MILE PER HOUR	mile/h	1	1.466 666	1.609 344	$4.470\ 400 \times 10^{-1}$	$4.470\ 400 \times 10^{1}$
FOOT PER SEC.	ft/s	$6.818\ 18 \times 10^{-1}$	1	1.097 280	3.048×10^{-1}	3.048×10^{1}
KILOMETRE PAR HEURE	km/h	$6.213\ 712 \times 10^{-1}$	$9.113\ 444 \times 10^{-1}$	1	$2.777\ 778 \times 10^{-1}$	$2.777\ 778 \times 10^{1}$
METRE PAR SEC.	m/s	2.236 936	3.280 840	3.600	1	10^{2}
CENTIMETRE PAR SEC.	cm/s	$2.236\ 936 \times 10^{-2}$	$3.280\ 840 \times 10^{-2}$		10^{-2}	1

- ACCELERATION

THESE UNITS CORRESPOND TO →		MILE PER HOUR PER SECOND mile/h/s	FOOT PER SECOND PER SECOND ft/s^2	METRE PAR SECONDE PAR SECONDE m/s^2	CENTIMETRE PAR SECONDE PAR SECONDE cm/s^2
MILE PER HOUR PER SEC.	mile/h/s	1	1.466 666	$4.470\ 400 \times 10^{-1}$	$4.470\ 400 \times 10^{1}$
FOOT PER SEC. PER SEC.	ft/s^2	$6.818\ 18 \times 10^{-1}$	1	3.048×10^{-1}	3.048×10^{1}
METRE PAR SEC. PAR SEC.	m/s^2	2.236 936	3.280 840	1	10^{2}
CENTIMETRE PAR SEC. PAR SEC.	cm/s^2	$2.236\ 936 \times 10^{-2}$	$3.280\ 840 \times 10^{-2}$	10^{-2}	1

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Speed - Acceleration
Figure 808

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THESE UNITS CORRESPOND TO →		TON-FORCE (UK) PER SQUARE FOOT tonf/ft ^{2}	TON-FORCE (UK) PER SQUARE INCH tonf/in ^{2}	POUND-FORCE PER SQUARE FOOT lbf/ft ^{2}	POUND-FORCE * PER SQUARE INCH lbf/in ^{2} (psi)
TON-FORCE (UK) PER SQUARE FOOT	tonf/ft^2	1	$6.944\ 444 \times 10^{-3}$	2.240×10^{3}	$1.555\ 556 \times 10^{1}$
TON-FORCE (UK) PER SQUARE INCH	tonf/in^2	1.440×10^{2}	1	$3.225\ 600 \times 10^{5}$	2.240×10^{3}
POUND-FORCE PER SQUARE FOOT	lbf/ft^2	$4.464\ 286 \times 10^{-4}$	$3.100\ 198 \times 10^{-6}$	1	$6.944\ 444 \times 10^{-3}$
POUND-FORCE* PER SQUARE INCH (psi)	lbf/in^2	$6.428\ 571 \times 10^{-2}$	$4.464\ 286 \times 10^{-4}$	1.440×10^{2}	1
(HECTOBAR) 1)	(hbar)	$9.323\ 855 \times 10^{1}$	$6.474\ 899 \times 10^{-1}$	$2.088\ 534 \times 10^{5}$	$1.450\ 377 \times 10^{3}$
MEGAPASCAL*	MPa	9.323 855	$6.474\ 899 \times 10^{-2}$	$2.088\ 534 \times 10^{4}$	$1.450\ 377 \times 10^{2}$
BAR	bar	$9.323\ 855 \times 10^{-1}$	$6.474\ 899 \times 10^{-3}$	$2.088\ 534 \times 10^{3}$	$1.450\ 377 \times 10^{1}$
KILOPASCAL	kPa	$9.323\ 855 \times 10^{-3}$	$6.474\ 899 \times 10^{-5}$	$2.088\ 534 \times 10^{1}$	$1.450\ 377 \times 10^{-1}$
PASCAL	Pa	$9.323\ 855 \times 10^{-6}$	$6.474\ 899 \times 10^{-8}$	$2.088\ 534 \times 10^{-2}$	$1.450\ 377 \times 10^{-4}$
BARYE	barye			$2.088\ 534 \times 10^{-3}$	$1.450\ 377 \times 10^{-5}$

THESE UNITS CORRESPOND TO →		(HECTOBAR) 1) (hbar)	MEGAPASCAL* MPa	BAR bar	KILOPASCAL kPa	PASCAL Pa
TON-FORCE (UK) PER SQUARE FOOT	tonf/ft^2	$1.072\ 518 \times 10^{-2}$	$1.072\ 518 \times 10^{-1}$	1.072 518	$1.072\ 518 \times 10^{2}$	$1.072\ 518 \times 10^{5}$
TON-FORCE (UK) PER SQUARE INCH	tonf/in^2	1.544 426	$1.544\ 426 \times 10^{1}$	$1.544\ 426 \times 10^{2}$	$1.544\ 426 \times 10^{4}$	$1.544\ 426 \times 10^{7}$
POUND-FORCE PER SQUARE FOOT	lbf/ft^2	$4.788\ 026 \times 10^{-6}$	$4.788\ 026 \times 10^{-5}$	$4.788\ 026 \times 10^{-4}$	$4.788\ 026 \times 10^{-2}$	$4.788\ 026 \times 10^{1}$
POUND-FORCE* PER SQUARE INCH (psi)	lbf/in^2	$6.894\ 757 \times 10^{-4}$	$6.894\ 757 \times 10^{-3}$	$6.894\ 757 \times 10^{-2}$	6.894 757	$6.894\ 757 \times 10^{3}$

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Pressure/Stress
Figure 809

– MOMENT/TORQUE

THESE UNITS CORRESPOND TO →		POUND–FORCE FOOT lbf.ft	POUND–FORCE INCH lbf.in.	POUNDAL INCH pdl. in.	METRE DECANEWTON m. daN	METRE NEWTON m. N
POUND--FORCE FOOT	lbf. ft	1	$1.200X10^{1}$	$3.860\ 886X10^{2}$	$1.355\ 818X10^{-1}$	1.355 818
POUND–FORCE INCH	lbf.in	$8.333\ 333X10^{-2}$	1	$3.217\ 405X10^{1}$	$1.129\ 848X10^{-2}$	$1.129\ 848X10^{-1}$
POUNDAL INCH	pdl.in	$2.590\ 079X10^{-3}$	$3.108\ 095X10^{-2}$	1	$3.511\ 676X10^{-4}$	$3.511\ 676X10^{-3}$
METRE DECANEWTON	m. daN	7.375 621	$8.850\ 746X10^{1}$	$2.847\ 643X10^{1}$	1	10^{1}
METRE NEWTON	m. N	$7.375\ 621X10^{-1}$	8.850 746	$2.847\ 643X10^{2}$	10^{-1}	1

– FORCE

THESE UNITS CORRESPOND TO →		TON–FORCE (UK) tonf	POUND–FORCE lbf	POUNDAL pdf
TON–FORCE (UK)	tonf	1	$2.240X10^{3}$	$7.206\ 987X10^{4}$
POUND–FORCE	lbf	$4.464\ 286X10^{-4}$	1	$3.217\ 405X10^{1}$
POUNDAL	pdl		$3.108\ 095X10^{-2}$	1
KILONEWTON	kN	$1.003\ 611X10^{-1}$	$2.248\ 089X10^{2}$	$7.233\ 014X10^{3}$
DECANEWTON	daN	$1.003\ 611X10^{-3}$	2.248 089	$7.233\ 014X10^{1}$
NEWTON	N	$1.003\ 611X10^{-4}$	$2.248\ 089X10^{-1}$	7.233 014
DYNE	dyn		$2.248\ 089X10^{-6}$	$7.233\ 014X10^{-5}$

THESE UNITS CORRESPOND TO →		KILONEWTON kN	DECANEWTON daN	NEWTON * N	DYNE dyn
TON–FORCE (UK)	tonf	9.964 016	$9.964\ 016X10^{2}$	$9.964\ 016X10^{3}$	
POUND–FORCE *	lbf	$4.448\ 222X10^{-3}$	$4.448\ 222X10^{-1}$	4.448 222	$4.448\ 222X10^{5}$
POUNDAL	pdl	$1.382\ 550X10^{-4}$	$1.382\ 550X10^{-2}$	$1.382\ 550X10^{-1}$	$1.382\ 550X10^{4}$

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Moment/Torque - Force
Figure 810

In Newton (N)	Number to Be Converted	In Pound-Force (lbf)	In Newton (N)	Number to Be Converted	In Pound-Force (lbf)	In Newton (N)	Number to Be Converted	In Pound-Force (lbf)
4.448 222	1	0.224 809	124.550	28	6.295	244.652	55	12.364
8.896	2	0.450	128.998	29	6.519	249.100	56	12.589
13.345	3	0.674	133.447	30	6.744	253.549	57	12.814
17.793	4	0.899	137.895	31	6.969	257.997	58	13.039
22.241	5	1.124	142.343	32	7.194	262.445	59	13.264
26.689	6	1.349	146.791	33	7.419	266.893	60	13.489
31.138	7	1.574	151.240	34	7.644	271.342	61	13.713
35.586	8	1.799	155.688	35	7.868	275.790	62	13.938
40.034	9	2.023	160.136	36	8.093	280.238	63	14.163
44.482	10	2.248	164.584	37	8.318	284.686	64	14.388
48.930	11	2.473	169.032	38	8.543	289.134	65	14.613
53.379	12	2.698	173.481	39	8.768	293.583	66	14.837
57.827	13	2.923	177.929	40	8.992	298.031	67	15.062
62.275	14	3.147	182.377	41	9.217	302.479	68	15.287
66.723	15	3.372	186.825	42	9.442	306.927	69	15.512
71.172	16	3.597	191.274	43	9.667	311.376	70	15.737
75.620	17	3.822	195.722	44	9.892	315.824	71	15.962
80.068	18	4.047	200.170	45	10.116	320.272	72	16.186
84.516	19	4.271	204.618	46	10.341	324.720	73	16.411
88.964	20	4.496	209.066	47	10.566	329.168	74	16.636
93.413	21	4.721	213.515	48	10.790	333.617	75	16.861
97.861	22	4.946	217.963	49	11.015	338.065	76	17.085
102.309	23	5.171	222.411	50	11.240	342.513	77	17.810
106.757	24	5.395	226.859	51	11.465	346.961	78	17.535
111.206	25	5.620	231.308	52	11.690	351.410	79	17.760
115.654	26	5.845	235.756	53	11.914	355.858	80	17.985
120.102	27	6.070	240.204	54	12.140	360.306	81	18.210

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Conversion Table (1 to 81)
Figure 811

In Newton (N)	Number to Be Converted	In Pound-Force (lbf)	In Newton (N)	Number to Be Converted	In Pound-Force (lbf)	In Newton (N)	Number to Be Converted	In Pound-Force (lbf)
364.754	82	18.434	556.028	125	28.101	747.301	168	37.768
369.202	83	18.659	560.476	126	28.326	751.750	169	37.993
373.651	84	18.884	564.924	127	28.551	756.198	170	38.218
378.099	85	19.109	569.372	128	28.775	760.646	171	38.442
382.547	86	19.334	573.821	129	29.000	765.094	172	38.667
386.995	87	19.558	578.269	130	29.225	769.542	173	38.892
391.444	88	19.783	583.717	131	29.450	773.991	174	39.117
395.892	89	20.008	587.165	132	29.675	778.439	175	39.342
400.340	90	20.233	591.614	133	29.900	782.887	176	39.566
404.788	91	20.458	596.062	134	30.134	787.335	177	39.791
409.236	92	20.652	600.510	135	30.349	791.784	178	40.016
413.685	93	20.907	604.958	136	30.574	796.232	179	40.241
418.133	94	21.132	609.406	137	30.799	800.680	180	40.466
422.581	95	21.357	613.855	138	31.024	805.128	181	40.690
427.029	96	21.582	618.303	139	31.248	809.576	182	40.915
431.478	97	21.806	622.751	140	31.473	814.025	183	41.140
435.926	98	22.031	627.199	141	31.698	818.473	184	41.365
440.374	99	22:256	631.648	142	31.923	822.921	185	41.590
444.822	100	22.481	636.096	143	32.148	827.369	186	41.814
449.270	101	22.706	640.544	144	32.372	831.818	187	42.039
453.719	102	22.930	644.992	145	32.597	836.266	188	42.264
458.167	103	23.155	649.440	146	32.822	840.714	189	42.489
462.615	104	23.380	653.889	147	33.047	845.162	190	42.714
467.063	105	23.605	658.337	148	33.272	849.610	191	42.938
471.512	106	23.830	662.185	149	33.496	854.059	192	43.163
475.960	107	24.054	667.233	150	33.721	858.507	193	43.388
480.408	108	24.279	671.682	151	33.946	862.955	194	43.613
484.856	109	24.504	676.130	152	34.171	867.403	195	43.838
489.304	110	24.729	680.578	153	34.396	871.852	196	44.062
493.753	111	24.954	685.026	154	34.620	876.300	197	44.287
498.201	112	25.178	689.474	155	34.845	880.748	198	44.512
502.649	113	25.403	693.923	156	35.070	885.196	199	44.737
507.097	114	25.628	698.371	157	35.295	889.644	200	44.962
511.546	115	25.853	702.819	158	35.520	894.093	201	45.186
515.894	116	26.078	707.267	159	35.745	898.541	202	45.411
520.442	117	26.303	711.716	160	35.969	902.989	203	45.636
524.890	118	26.527	716.164	161	36.194	907.437	204	45.861
529.338	119	26.752	720.612	162	36.419	911.886	205	46.086
533.787	120	26.977	725.060	163	36.644	916.334	206	46.311
538.235	121	27.202	729.508	164	36.869	920.782	207	46.535
542.683	122	27.427	733.957	165	36.093	925.230	208	46.760
547.131	123	27.651	738.405	166	37.318	929.678	209	46.985
551.580	124	27.876	742.853	167	37.543	934.127	210	47.210

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Conversion Table (82 to 210)
Figure 812

GAUGE SWG N°	Dimensions		GAUGE SWG N°	Dimensions		GAUGE SWG N°	Dimensions		GAUGE SWG N°	Dimensions	
	inch	millimètre		inch	millimètre		inch	millimètre		inch	millimètre
7/0	.500	12.700	9	.144	3.658	24	.022	.559	39	.0052	.1321
6/0	.464	11.786	10	.128	3.251	25	.020	.508	40	.0048	.1219
5/0	.432	10.973	11	.116	2.946	26	.018	.457	41	.0044	.1118
4/0	.400	10.160	12	.104	2.642	27	.0164	.4166	42	.0040	.1016
3/0	.372	9.449	13	.092	2.337	28	.0148	.3759	43	.0036	.0914
2/0	.348	8.839	14	.080	2.032	29	.0136	.3454	44	.0032	.0813
0	.324	8.230	15	.072	1.829	30	.0124	.3150	45	.0028	.0711
1	.300	7.620	16	.064	1.626	31	.0116	.2946	46	.0024	.0610
2	.276	7.010	17	.056	1.422	32	.0108	.2743	47	.0020	.0508
3	.252	6.401	18	.048	1.219	33	.0100	.2540	48	.0016	.0406
4	.232	5.893	19	.040	1.016	34	.0092	.2337	49	.0012	.0305
5	.212	5.385	20	.036	.914	35	.0084	.2134	50	.0010	.0254
6	.192	4.877	21	.032	.813	36	.0076	.1930			
7	.176	4.470	22	.028	.711	37	.0068	.1727			
8	.160	4.064	23	.024	.610	38	.0060	.1524			

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SWG Gages
Figure 813